DOCUMENT RESUME

ED 051 094 SP 004 898

AUTHOR	Theimer, William C., Jr.; Locke, Marvin E.
TITLE	Learning to Help Them Learn; An Evaluation of Professional Development Centers, 1969-70.
INSTITUTION	University of the Pacific, Stockton, Calif.
SPONS AGENCY	California State Dept. of Education, Sacramento. Office of Compensatory Education.
PUB DATE	70
NOTE	52p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	Differentiated Staffs, Educationally Disadvantaged, *Elementary School Teachers, *Inservice Teacher Education, *Mathematics Instruction, *Reading Improvement, *Teacher Improvement
IDENTIFIERS	Professional Development Centers

ABSTRACT

Professional Development Centers (PDC) were established to improve the instructional skills of classroom teachers in grades K-6 whose pupils from low socio-economic backgrounds were achieving below grade level in reading and mathematics. Additional personnel trained in the program included aides, student teachers, elementary administrators, and replacement teachers needed to free the classroom teachers for their training cycle. The goals of the program were 1) to improve the instructional competencies of teachers, and 2) to raise the achievement level of the educationally disadvantaged child in reading and mathematics by 1.5 years for each year of instruction. All school districts involved conducted four cycles during the regular school year as well as a summer school program. In each cycle certain activities were carried out by all centers, while some activities were unique to particular centers. The five individual projects were located in 1) Compton, Enterprise, and Willowbrook School Districts; 2) Fresno City Unified School District; 3) Long Beach Unified School District; 4) Oakland Unified School District; and 5) Richmond Unified School District. The situation, objectives and program, and evaluation are provided for each. Recommendations are made for the future development of the centers. (MBM)

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LEARNING

to help them learn

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AN EVALUATION
OF

Professional Development Centers

Report No. 71-003
School of Education, University of the Pacific

1969-1970

LABORATORY OF EDUCATIONAL RESEARCH

BY WILLIAM C. THEIMER, JR., Ph.D., DIRECTOR
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This report has been prepared for dissemination throughout educational circles in the State of California at the Laboratory of Educational Research, University of the Pacific, under funds provided through Grant No. 39-88409-35-14042, State Department of Education, Division of Compensatory Education, Bureau of Professional Development.

SP004878

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FOREWORD

The Laboratory of Educational Research, University of the Pacific, was approved by the State Board of Education to conduct a project to disseminate the results of the Professional Development Center (PDC) programs conducted during the 1969-70 school year.

The summaries contained in this booklet are based on the reports submitted by the Project Directors of the Centers involved. Additional information was obtained by on-the-site visits to the Centers by the Director and Assistant Director of the Laboratory of Educational Research, and in conferences with the Project Evaluators. The basic purpose of this report is to contribute to the strengthening of individual projects by making data from all Centers available. In this way all projects can profit from the strengths and avoid the problems that others have encountered. Through effective dissemination of evaluation procedures it is hoped that other school districts within the State will be made aware of PDC projects and incorporate the successful elements of the PDC projects into their own school systems. The Centers described in this booklet were those located in Compton, Fresno, Oakland, Long Beach, and Richmond during the 1969-70 school year. All these projects were located in urban areas with high concentrations of disadvantaged students who display low achievement in the basic skills of reading and mathematics.

The basic philosophy of the Laboratory is that evaluation should be an integral part of every school operation and that the results of evaluations should be used to modify programs when the data collected indicate that such modifications should be made. This statement implies that evaluation should not be seen as, or used for, punitive or threatening purposes. Rather, all those involved in a project should look upon evaluative data as feedback which will help them to improve their skills, knowledge, and techniques in whatever role they play in the schools. It is the hope of the staff of the Laboratory that this report will be seen in this light and will add to the knowledge of how man learns.

The Laboratory of Educational Research deeply appreciates the efforts of PDC personnel in providing the necessary information to make this report accurate and complete. Mr. Fred Tillman, Chief, Bureau of Professional Development, has been extremely helpful as have his staff members, Dr. Marion Faustman and Mr. Claude Hansen. The graduate assistants in the Laboratory of Educational Research, Mr. James Darcy, Mr. Norman King, and Mr. Greg Johnson, have devoted many long hours to the preparation of materials presented in the report. The artistry of Mrs. Donna Roselius has contributed much to the effectiveness of the publication as have the secretarial skills of Mrs. Toni O'Bryon. To all these people go our grateful thanks for their skill, assistance, and time.

William C. Theimer, Jr.

Marvin E. Locke

PREFACE

PROFESSIONAL DEVELOPMENT AND PROGRAM IMPROVEMENT ACT CENTERS

One great area of concern in education is the need for effective teaching in compensatory education schools. The Professional Development and Program Improvement Act of 1968 is directed toward meeting this need. Programs funded under this act may provide services to student teachers in higher education institutions as well as to school district personnel.

The Professional Development and Program Improvement Act provides for the establishment of training centers in urban school districts and joint programs between county school offices and local school districts in rural areas. Both the Professional Development Center programs and joint programs emphasize the development of teacher competencies which are required to teach reading and mathematics to kindergarten and elementary grade pupils. The primary goal of the program is to train total school staffs including paraprofessionals and student teachers from higher education institutions.

In September, 1969, five pilot projects were established in the State. These were located in Oakland, Fresno, Compton, Long Beach, and Richmond. The effects of these programs on teachers and students are being studied. It is hoped that through this program the school achievement for educationally disadvantaged children will be optimized.

Fred Tillman, Chief
Bureau of Professional Development

PROFESSIONAL DEVELOPMENT CENTER REPORT

Goals

The Professional Development Centers (PDC) were established to improve the instructional skills of classroom teachers in grades K-6 whose pupils from low socio-economic backgrounds were achieving below grade level in reading and mathematics. In addition to these teachers, personnel trained in the programs included aides, student teachers, elementary administrators, and the replacement teachers needed to free the classroom teachers for their training cycle.

The goals of the program were stated in the *Guidelines for Professional Development and Program Improvement Center Joint Programs* published in June, 1970, after the programs had been in operation one school year. They were:

(1) *To improve the instructional competencies of teachers.*

(2) *To raise the achievement level of the educationally disadvantaged child in reading and mathematics by 1.5 years for each year of instruction.*

Selection of Participating Districts

All of the school districts in which Centers were established had either an *ESEA Title I* program, a *Miller-Unruh Basic Reading* program, and/or a *Mathematics Improvement Act* program in existence at the time of receiving funds for a PDC.

Selection of Center Schools

Each of the school districts involved in the program located its Center in a school having grades K-6 which conducted one or more of the above-mentioned programs. In addition, each Center school was to have a sufficient number of master teachers who could act as resource or model teachers to meet the needs of the program as defined in the application proposal.

Master teachers were selected by school districts from their core of teachers who had demonstrated effective teaching abilities in the past. In some cases, they received no training in the program; none received a full cycle of training. The master teachers were to have demonstrated the ability -

- to develop innovative and creative teaching strategies
- to implement curricula

- to function as a teaching team leader and plan activities for team teaching
- to organize a classroom in a manner that would give all pupils meaningful learning experiences
- to direct and supervise activities of inexperienced teachers and aides, and
- to diagnose learning problems and prescribe corrective treatment for the participants in the PDC program.

Selection of Satellite Schools

Schools designated as satellite schools were those containing grades K-6 which had the highest concentrations of pupils whose reading and mathematics achievement scores fell below the first quartile as measured by an appropriate standardized test. The teachers in these schools who were to receive training had to assure the district that they would continue to teach in the satellite schools for a minimum of two years after completion of their training at the Center. The final criterion as stated in the *Guidelines* was that each district had to maintain a summer session where satellite teachers could implement their newly learned skills.

Selection of Program Personnel

Each program director was appointed by the administration of the participating local school district. Participating districts selected replacement teachers on the basis of their ability in classroom management and instructional skills. These replacement teachers were chosen by the district with the concurrence of the participating college or university. Oakland also required that replacement teachers have had experience in working with disadvantaged pupils. The administrators who received training in the programs were principals from the Center and satellite schools. Student teachers who participated in the Center were selected by the cooperating college or university.

Program Description

All school districts involved in the program conducted four cycles during the regular school year as well as a summer school program. In each cycle, certain activities were carried out by all of the Centers while some activities were unique to particular Centers. A brief description of each cycle follows.

Cycle I. In Cycle I, all Centers trained replacement teachers exclusively with the exception of the Richmond Center which also trained classroom aides and the Compton Center which included classroom aides and administrators. Oakland trained aides for the first five weeks.

All of the Centers had as major objectives:

(1) Improving the skills of participants in organizing for instruction

(2) Diagnosing individual student educational and learning deficiencies and

(3) Improving skills in teaching specific areas related to mathematics and reading.

Individual consultations with school personnel and workshops were conducted at all Centers with the exception of Fresno which reported using demonstration classrooms within the demonstration Center as its main organizational system. Each Center had replacement teachers discuss problems and develop appropriate solutions with the help of outside consultants. Long Beach, Oakland, and Fresno reported using video tape equipment as instructional media while Compton used special equipment such as Language Masters and overhead projectors.

In measuring the effects of the program on the replacement teachers, Compton, Oakland, and Fresno used standardized attitude inventory scales. Long Beach kept anecdotal records of participants' activities. In addition, master teachers observed participants in training situations. Oakland, Long Beach, and Richmond utilized participant questionnaires.

Cycles II and III. Each Center trained classroom teachers during Cycles II and III. In addition to classroom teachers, Long Beach and Fresno trained administrators and teacher trainees. Compton trained administrators, aides, and teacher trainees; Richmond trained administrators and aides. Oakland also trained one replacement teacher in Cycle II.

Each Center had different major objectives for these training periods. Long Beach concentrated on developing precision in diagnosis and prescriptive teaching while Compton's emphasis was on organizing for instruction. Oakland focused on teaching specific areas related to reading and mathematics. Fresno's main emphasis was the development of new materials and improving attitudes of the adult participants.

Richmond added a pupil motivational objective to the original set. The Centers held workshops and used seminars and lectures which were conducted by either university or local school district personnel. Oakland and Fresno frequently used video tape analysis. In Fresno, Richmond, and Oakland participants discussed problems with both local school district and university consultants. Long Beach and Compton had workshop input sessions involving a variety of activities during the first week of the training. Participants at Long Beach instructed students in the last weeks of the training under the supervision of a master teacher.

All Centers reported using video tape equipment; however, only Fresno, Richmond, and Oakland used it frequently as an instructional technique. Oakland, Long Beach, and Fresno used pre- and post- measurements of inservice participants in their research designs while Compton and Richmond used only post-measurements. All Centers gave participants a questionnaire at the end of each cycle. Oakland used a local attitude inventory scale, while Fresno used a standardized scale to measure any effects the program had on participants' attitudes.

Cycle IV. As in the previous cycle, classroom teachers were involved in the training at all Centers. Administrators were trained at Long Beach, Fresno, and Compton. Compton also trained replacement teachers in Cycle IV while Richmond provided them with follow-up training.

Long Beach and Richmond had the same major objectives as in Cycle III. Compton

emphasized skills in teaching specific areas related to reading and mathematics achievement; Oakland and Fresno listed diagnosing individual student educational and learning deficiencies as their main emphasis.

Each Center conducted workshops and individual consultation with school and university personnel. Compton and Richmond had classroom visitations within the demonstration Center. Oakland reported frequently using video tape analysis of classroom teachers.

The instructional techniques used by Compton, Fresno, Oakland, and Richmond included discussions with outside consultants while Long Beach employed and analyzed techniques used by resource teachers. Oakland reported video tape analysis as the only instructional technique used by the participating teachers.

Oakland and Fresno utilized the *Far West Laboratory for Educational Research and Development* micro-teaching films as instructional media. Fresno and Oakland reported using interaction analyses in Cycle IV as part of their training program.

All the Centers used pre- and post-measurements to assess the effects of their programs on the participants. Long Beach, Fresno, Oakland, Richmond, and Compton used participant questionnaires at the end of the cycle.

Summary of Project Cost and Number of Participants

Figure 1 shows the total amount of monies allocated to each of the PDC projects for

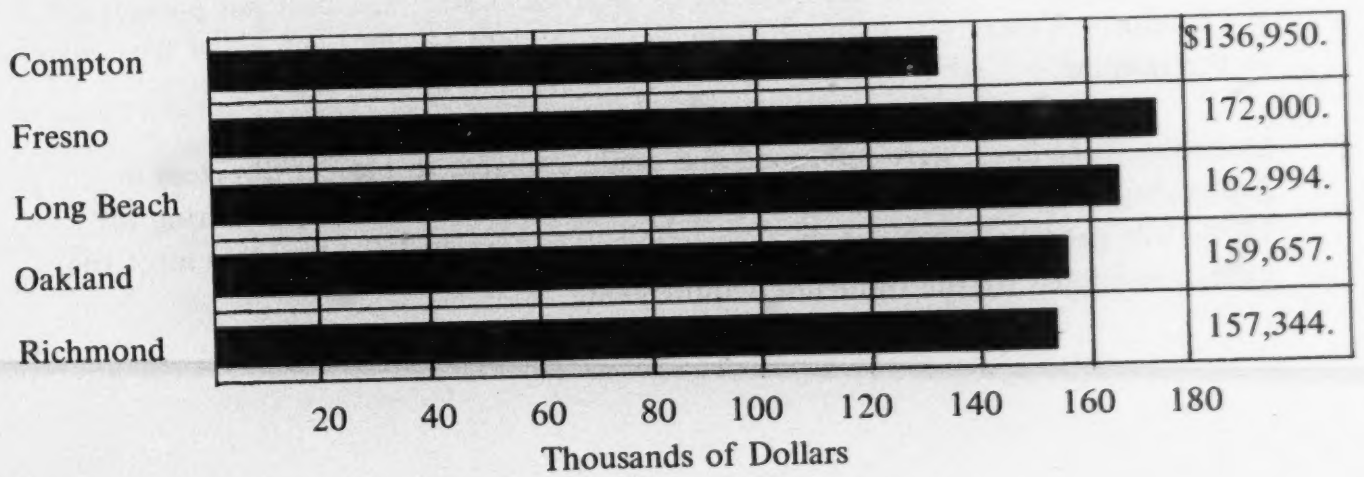


Figure 1. Total Professional Development Center Funds by Project.

the 1969-70 school year, including the summer school program. Table 1 shows the total number of participants trained in each of the projects in terms of their function. The number of replacement teachers trained in each Center limited the number of teachers who could be trained in subsequent cycles.

TABLE 1

Total Number of Participants by Project

	Replacement Teachers	Classroom Teachers	Adminis-trators	Aides	Other Partic.	Student Teachers	TOTALS
Compton	10	29	4	23	7	10	83
Fresno	12	36	3	30	2	-	83
Long Beach	6	23	3	-	6	2	40
Oakland	8	23	-	8	8	-	47
Richmond	8	24	3	17	-	-	52
TOTALS	44	135	13	78	23	12	305

Only those satellite teachers who had replacement teachers could participate in the subsequent cycles. Some of the Centers trained aides and administrators as well as teachers from the satellite schools, but only Compton and Long Beach included student teachers in their list of participants.

Prior to the adoption of the program *Guidelines* by the State Board of Education in June, 1970, no ceiling was placed on the per capita expenditure for training PDC participants. As a consequence the per capita cost for training participants in each Center except Compton exceeded the limit set in the *Guidelines.* The cost per participant in the Compton Center was reduced by including student teachers and other participants in the training.

Since the *Guidelines* were published and made available to project directors in September, 1970, the Centers are training a larger number of trainees during the 1970-1971 program year, and the per participant cost will be reduced to meet the limits established by the *Guideline* requirement.

COMPTON PROJECT

Compton City School District, Leonard C. Erickson, Superintendent
Enterprise City School District, Marvin L. Crawford, Superintendent
Willowbrook School District, Rodney F. Mahoney, Superintendent
Joyce Bagsby, Project Director

Situation

The Compton Project serves a community located adjacent to the Watts 1965 riot area. It is an area which has a predominance of low income families and has a high percentage of minority races (71%). In five of the area schools the concentration of minority students is not less than 93%.

Results of studies conducted under an *ESEA Title III* grant involving consultants showed that teachers in the Compton Project were not sensitive to the needs of the children. This finding was further substantiated when the California State Department of Education published statewide test scores placing students in the Compton Project among the lowest in the state; in some schools, the number of children scoring in the lowest quartile at the end of the second grade was 89%. Faced with the situation of low student achievement scores and lack of teacher awareness, the involved school districts, with the help of *California State College at Dominguez Hills,* formulated a Professional Development Center (PDC) to alleviate these two problems. For the 1969-70 year, *Washington Elementary School* was chosen as the Center, with *Dickison School* being the satellite school from which teachers were trained.

Specific Objectives

The specific objectives stated in the Compton application are consistent with the goals set forth in the *Guidelines for Professional Development and Program Improvement Center/Joint Programs.* The objectives for reading and mathematics included

increasing student achievement through improving the skills of participants in:

1. *Organizing the classroom for instruction*

2. *Diagnosing student deficiencies*

3. *Planning instruction, including the preparation of behavioral objectives.*

The stated objectives remained consistent throughout the four training cycles in the year although in the fourth cycle a slight change of focus occurred which placed increased emphasis on the teachers' accountability for student achievement.

Unique Program Elements

The Compton PDC trained a total of 83 persons during the course of the regular school year. The categories of personnel receiving the formalized program are presented in the following table.

TABLE C-1

Numbers of Personnel Trained by Category

Demonstration Teachers	7
Replacement Teachers	10
Satellite Teachers	29
Administrators	4
Aides	23
Student Teachers	10
TOTAL	83

The Compton project was different from the others in that a greater variety of personnel were trained.

The school year was divided into four eight-week cycles for purposes of retraining teachers. During the year, replacement teachers were trained at the Center school during Cycle I. During the second and subsequent cycles, teachers from the satellite schools came to the Center for retraining while their classes were taught by the replacement teachers. Rather than there being an additional formalized cycle in the summer, Cycle IV teachers were given first priority to teach in the Project's summer program to try their newly acquired skills. In addition, demonstration teachers were involved in a summer training program at *UCLA*.

The teachers were trained through such activities as inservice meetings with Project staff and outside consultants, workshops, question and answer sessions, and audio visual presentations. The content of this study was devoted to such areas as the use of audio visual techniques to individualize instruction, reading, diagnosis of learning problems and remedial techniques, human relations and attitude change, and the psychology of the disadvantaged.

Evaluation

Student Achievement: The achievement of pupils in the satellite schools was measured by comparing pre- and post-test scores on the *SRA Achievement Test.* Scores are available for students in grades two through six. In all cases, the scores for students in Cycles II and III are higher in terms of grade placement growth for students whose teachers received PDC retraining than for students in the control group. Until Cycle II, no retrained teachers were in any classroom. Those teachers who received training in Cycle IV did not return to their classrooms because their training and the school term ended simultaneously. Thus, students who received the most exposure to the program were those whose teachers were trained in Cycles II and III. Figure C-1 shows student gain scores for Cycle II in mathematics and reading. The achievement of the PDC pupils generally exceeded that of the non-PDC pupils by .2 of a year. In three categories, second grade mathe-

matics, third grade mathematics, and fourth grade reading, students in the PDC group on the average gained a full grade placement year of growth.

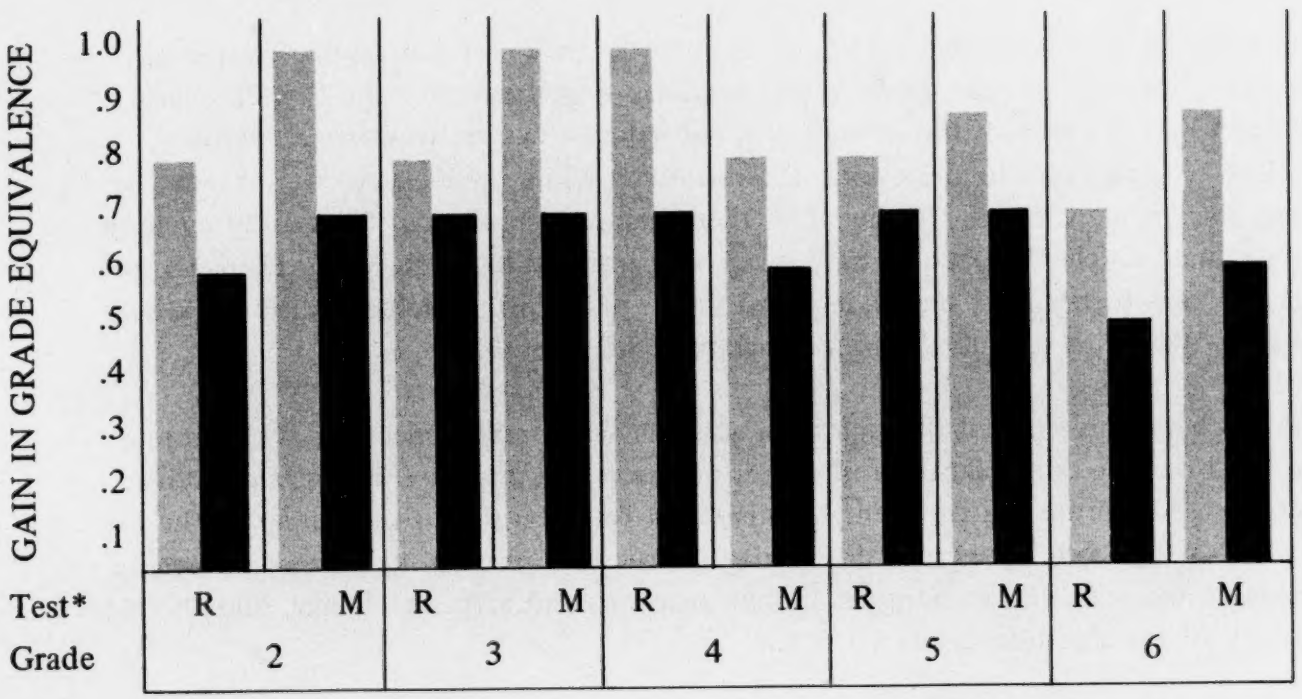


Figure C-1. Gain Scores on *SRA Achievement Test* Scores for Cycle II.

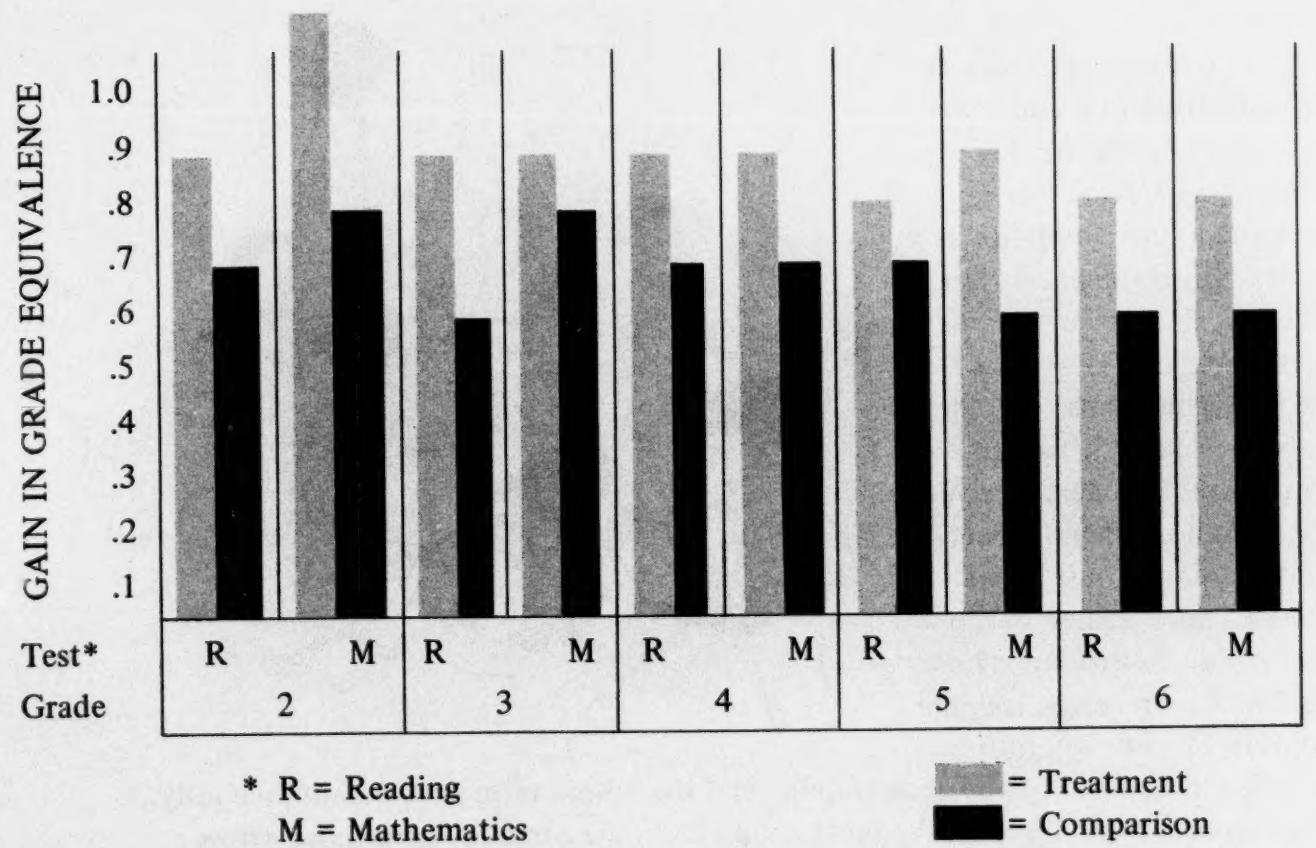


Figure C-2. Gain Scores on *SRA Achievement Test* Scores for Cycle III.

Figure C-2 shows the gain scores of student achievement for Cycle III as measured by the *SRA Achievement Test.* The grade placement scores of the PDC pupils as contrasted with the non-PDC pupils were generally .2 of a grade equivalent higher. In one category, second grade mathematics, the achievement growth was 1.1 grades. In all reported cases, the pupils of the PDC retrained teachers did better than those of non-PDC trained teachers.

Teacher Competency: No hard data are presented to support the growth in teacher competency as a result of the PDC program. The preliminary application indicates that the *Minnesota Teacher Attitude Inventory (MTAI)* was to be used as a pre- and post-test measurement. According to the project director, this instrument was administered but no terminal data are reported. Since 1969-70 was the first year of the project, a considerable amount of time was devoted to process development. This development was evaluated by the director, consultants, and by teachers, and was reflected in communications from the Project Director to the Bureau of Professional Development. The design of the reporting forms for 1969-70 did not facilitate the collection and reporting of this type of evaluative information.

Conclusions and Recommendations

The first year of the Compton PDC project was of necessity devoted primarily to process development. The director was appointed just prior to the opening of school in the fall of 1969-70; therefore, she had little time to plan the program. The basic program was modified as necessary throughout the year. It was the conclusion of involved staff members that the program was a success and that a solid foundation had been established upon which to build for subsequent years. The changes in teaching personnel as replacement teachers relieved satellite teachers did not result in deleterious effects upon pupil achievement. There were some problems in the early stages of the program regarding staff relations between demonstration teachers, satellite teachers, and replacement teachers. Also, there was a need for greater support from curriculum consultants and additional time for planning. However, these difficulties appear to have been well on their way to resolution by the end of the year. The evaluation of the project did not receive the attention needed by a program of this type; nevertheless, it appears that

changes are currently being made which will strengthen the program and result in more meaningful evaluation of its outcomes.

Recommendations:

1. It is essential that the program be carefully conceptualized to insure congruence between PDC objectives, program elements and evaluation procedures. Steps should be undertaken to provide for both process and product evaluation of the growth and development of teacher competency. This might include the development of appropriate local instruments as well as more standardized techniques such as interaction analysis or the use of the *MTAI*. An evaluation should be made of the teachers after they have returned to their regularly assigned classrooms. In addition, a more comprehensive evaluation must be built into the PDC program.

2. It is essential that provision be made for follow-up of all teachers who have completed the PDC training and who are now teaching in the recently formed Compton Unified School District. The type of change which is desired in teacher performance is one which cannot normally be achieved in a two-month training cycle. Consideration should be given to reinforcement of techniques and attitudes acquired in PDC training as well as to assessment of teacher performance in the classroom.

3. Preliminary findings indicate that this program has potential in the Compton Unified School District for making a positive contribution to the retraining of teachers who are involved with the educationally disadvantaged. With needed improvements, it should continue to receive the support of the local school district and of the Bureau of Professional Development.

4. If not already accomplished for the 1970-71 year, the program should be modified to:

   a. Insure adequate housing and facilities for the PDC.

   b. Involve the staff of the PDC in the selection of demonstration teachers and classrooms.

   c. Maximize the coordination between the Compton Unified School District, the PDC, and the cooperating colleges in the assignment of student teachers to satellite and Center schools.

FRESNO CITY UNIFIED SCHOOL DISTRICT

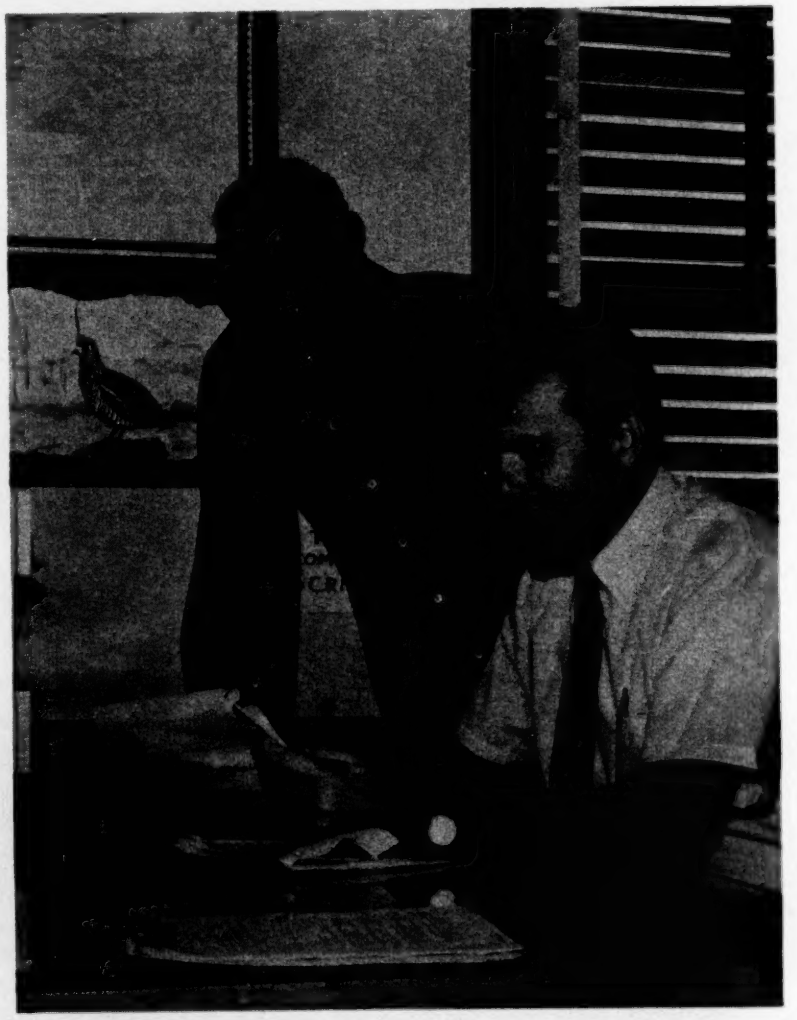
Erwin A. Donn, District Superintendent
Milton Jones, Project Director

Situation:

The Fresno Unified School District, though located in a rich agricultural district, has within its boundaries high concentrations of ethnic minority groups. The area in which this is specifically evident is West Fresno where the population is 65% Black, 30% Brown, and 5% Caucasian. Over 59% of the housing is classed as substandard. The unemployment rate is approximately 22% and the educational level of residents over 25 years old is 7.9 years of school. Extensive Federal support has been given in housing and urban development; the area is an Office of Economic Opportunity target area.

In the West Fresno Schools the teacher turnover rate has averaged over 12% higher than for other elementary schools in the District. Probationary teachers outnumber tenured teachers. Few minority teachers seek jobs in the area and student teachers from *Fresno State College* are reluctant to accept assignments in its compensatory education schools.

Lincoln Elementary School, which was selected as the Center school for 1969-70, had 40% of its students in the first quartile in reading. The satellite schools, *Franklin* and *Teilman,* had 57% and 65% of their students scoring in the lowest quartile, respectively.



Additional Objectives

In addition to the general objectives for the PDC, the Fresno program had the following major objectives relating to the teaching of reading and mathematics:

1. To improve the teaching of, and program in, reading and mathematics.

2. To increase the teachers' skill in diagnosing learning disabilities and in developing corrective programs.

3. To expand the teachers' use of materials and resources in the individualization of instruction.

4. To develop greater knowledge of the mental and emotional makeup of the disadvantaged child.

Unique Program Elements:

The Fresno PDC trained a total of 53 persons during the academic year plus 30 during the summer. A breakdown of the number of personnel, together with the total number of hours of training per participant, is shown in the following table:

TABLE F-1

Number of Participants in Each Cycle and Number of Hours of Training Per Participant for Fresno, 1969-70

	READING						MATHEMATICS					
Cycles	I	II	III	IV	SUMMER	TOTAL	I	II	III	IV	SUMMER	TOTAL
No. of Participants	12	14	12	15	30	83	12	14	12	15	30	83
Hours of Training Per Partic.	48	90	90	90		318	53	53	53	53		212

The Fresno PDC was established with four eight-week training cycles. A Summer Cycle was held in conjunction with the Career Opportunities Program. The replacement teachers were trained in Cycle I to temporarily replace teachers from the satellite schools who were being retrained during subsequent cycles. The replacement teachers were selected by the assistant superintendent as being the most competent teachers applying for employment in the Fresno Unified School District.

The training provided at the PDC consisted of 1) demonstrations of effective methods and strategies of teaching reading and mathematics, 2) demonstrating techniques for the individualization of instruction, 3) development of teachers' ability in the diagnosis of deficiencies and prescription of corrective programs in

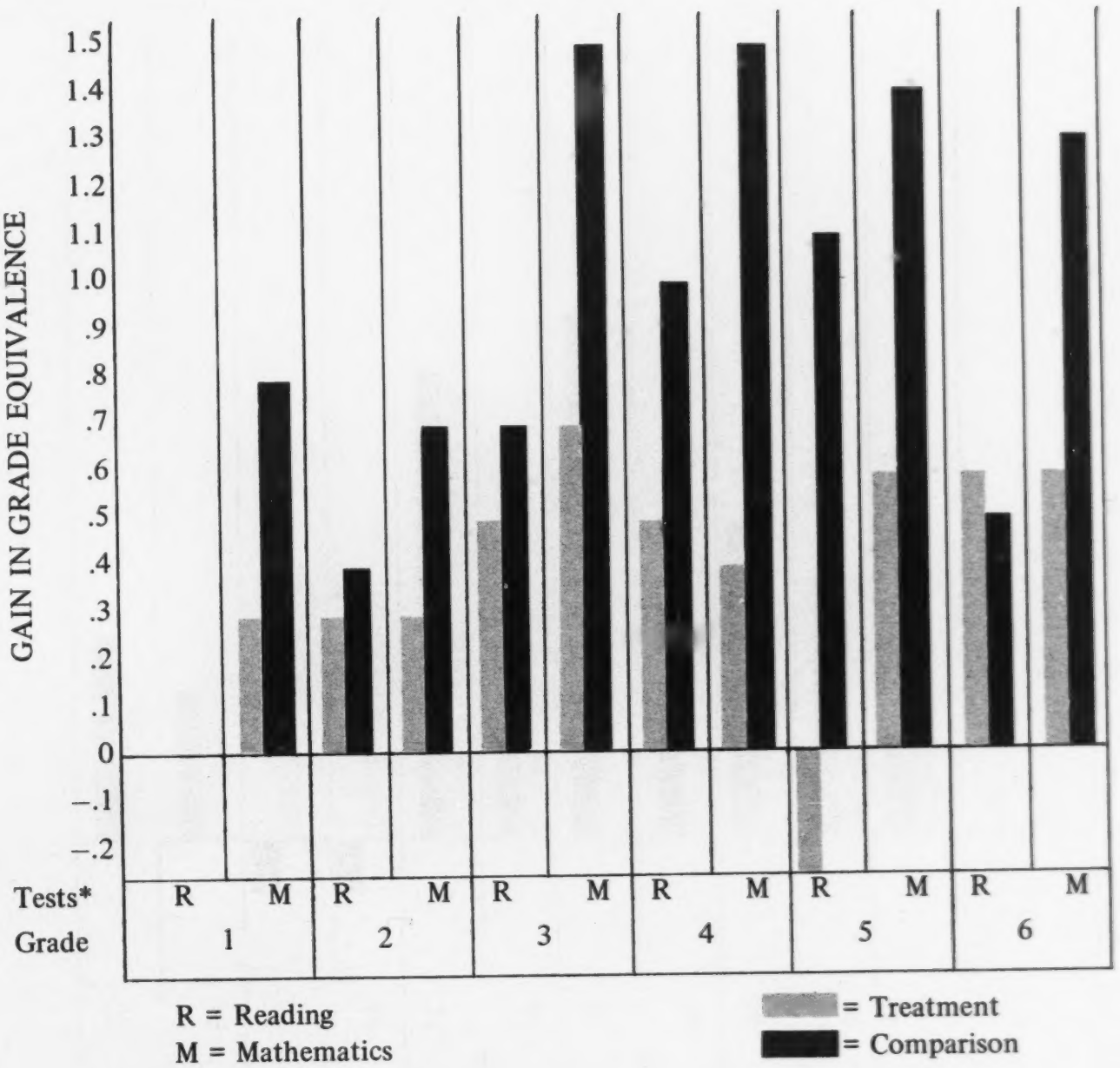
basic skill areas, 4) developing teachers' analysis of economic and cultural factors that adversely affect learning by children, and 5) developing teachers' understanding of the psychology of the disadvantaged child and the sociology of the poverty area. The Center evaluation was conducted by project personnel, but self-evaluation by participants was an integral part of the total program. Instruction was directed by district personnel as well as by outside consultants from *Fresno State College.*

Evaluation

Student Achievement: The achievement of first through sixth grade pupils was assessed by means of standardized tests administered on a pre-post-test basis to students whose teachers were retrained in the PDC program and to students in comparison classes. In reading, the *Cooperative Reading Test* was used for the first grade, the *Stanford Reading Test* for grades two and three, and the *California Test of Basic Skills* for grades four, five, and six. In mathematics, the *Stanford Achievement Test* was used for grades one and two, and the *California Test of Basic Skills* for grades three, four, five, and six. As in other projects, those pupils whose teachers were retrained in Cycles II and III would be expected to have maximal benefit from the program. No retrained teachers were in satellite classrooms when replacement teachers took over and the regular teacher returned. This interference would not be expected to result in great improvement in standardized achievement test scores of pupils.

Figure F-1 shows that all pupils in Cycle II classes had at least a gain of 0.3 of a year in grade equivalence in reading and mathematics, with the exception of the fifth grade where in reading a -0.2 grade regression was noted. In Cycle II, two of the mathematics comparison groups in grades three and four achieved a grade equivalency gain of 1.5.

These gains in mathematics are similar to those found in the Oakland project, and may be the result, in part, of a special mathematics program funded under *AB 606.* Also, higher gains in mathematics than in reading may indicate that the skills involved



Tests used:

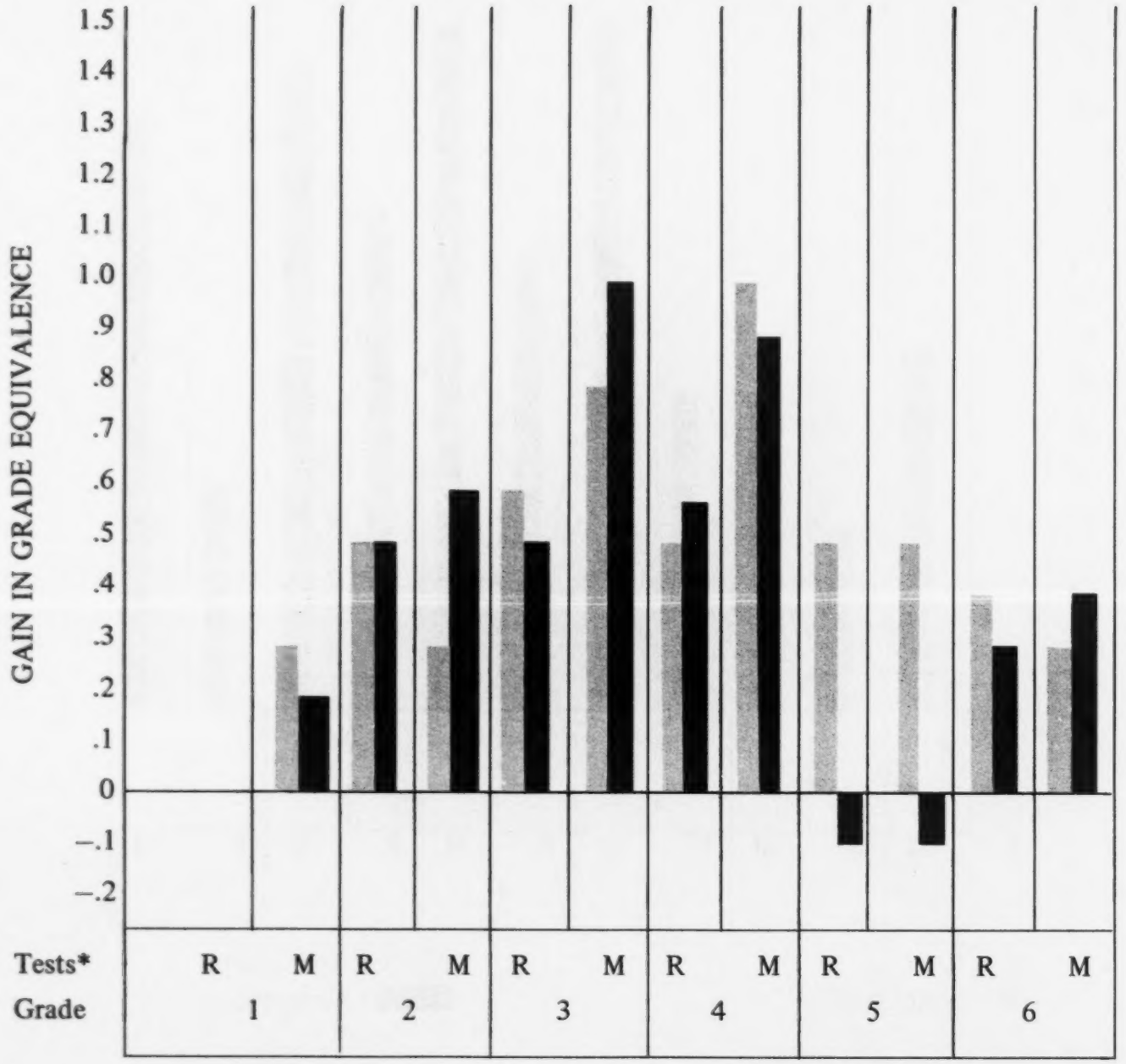
Grade one–*COOP Reading*
Grade two–*Stanford Reading*
Grade three–*Stanford Reading*
Grades four, five, and six–*CTBS*

Grade one–*SAT*
Grade two–*SAT*
Grade three–*CTBS*
Grades four, five, and six–*CTBS*

Figure F-1. Gain Scores in Reading and Mathematics Achievement, Cycle II.

in teaching mathematics are more easily learned and taught than are the reading skills.

Figure F-2 shows that all pupils in PDC classes had gains of at least 0.3 of a year in grade equivalency. The highest gain noted was in third grade mathematics for the comparison students (non-PDC). Comparison students in the fifth grade dropped -0.1 grade in reading and mathematics.



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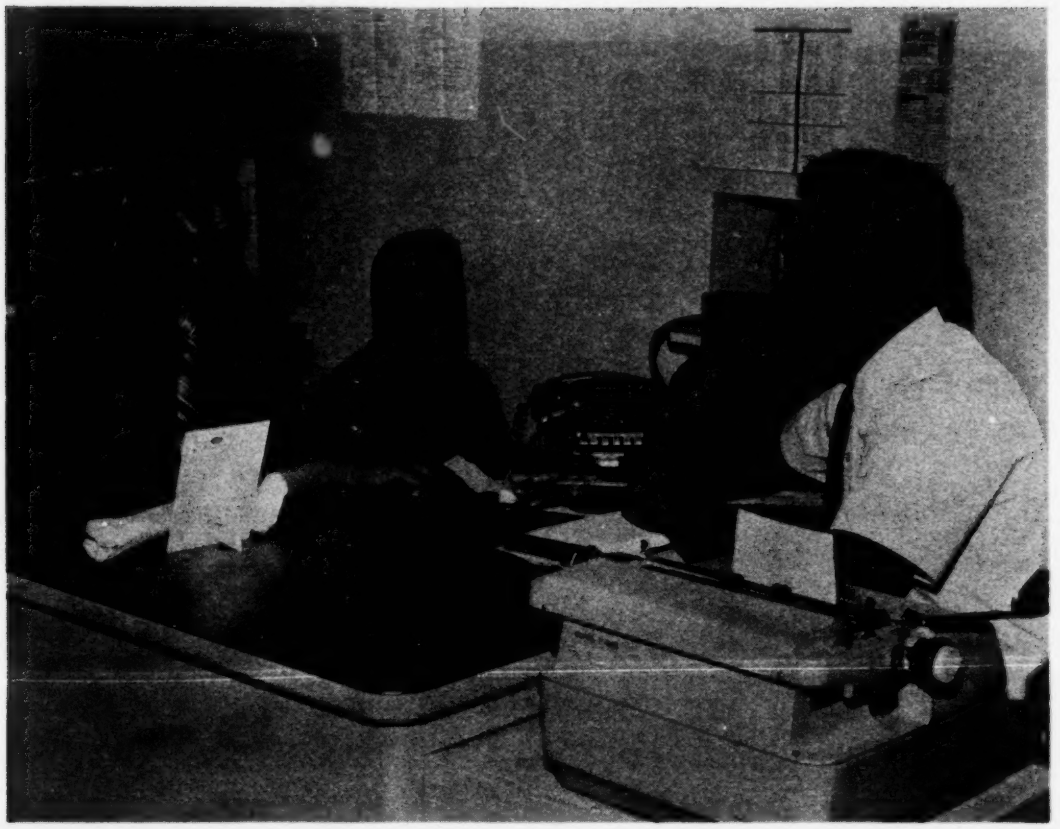
Grade one–*SAT*
Grade two–*SAT*
Grade three–*CTBS*
Grade four, five and six–*CTBS*

Figure F-2. Gain Scores in Reading and Mathematics Achievement, Cycle III.



Teacher Competency: The accurate assessment of teacher competency is difficult to measure. A number of approaches which were designed to yield process and product evaluation of the Fresno PDC program were utilized. A minimal amount of data is reported concerning the outcomes of these techniques. It must be emphasized that no provision was made for collecting evaluation forms for the state 1969-70 academic year. The following evaluative techniques were utilized:

1. A pre-post test administration of the *Minnesota Teacher Attitude Inventory* was given to teachers. Score increases were noted between the first and second administration.

2. Pupils of teachers trained in the Center received a locally developed attitude inventory. Pre-post test results were reported for the classrooms of Cycle II and III trainees.

3. An observation checklist was developed locally for use in PDC classrooms to guide the rating of teacher performance.

4. Principals in participating schools evaluated the program in terms of its administrative and educational impact.

5. Teachers receiving retraining in the PDC's were asked to evaluate their experience in the program.

6. Brief anecdotal records were collected from some of the teacher participants in the program relating to training and classroom experiences.

7. A discrepancy model was developed to insure congruency between selected aspects of the total program and the original program proposal.

In addition, the following techniques having implications for overall evaluation were utilized in the PDC classrooms for instructional purposes.

1. Video tapes were made of classroom presentations for individual and group replay and analysis.

2. *The Flanders Interaction Analysis* was utilized to determine the development of aspects of teacher competency in PDC classrooms.

3. The films of the *Far West Laboratory* were used in facilitating teacher analysis of classroom situations.

Conclusion and Recommendations

The first year of a new program of the magnitude of the PDC's must be devoted to process development. A number of important changes were necessary in the early stages of the program in order to insure its effective functioning. By the end of the year the developmental implementation of the program was complete.

Although it is impossible to make more than tentative conclusions regarding the growth of teacher competency, the reported achievement of students indicated that there was no regression in overall student achievement attributable to the interference of the PDC program. Based on the limited hard data from which valid conclusions may be drawn, the prognosis is that measurable improvements in reading and mathematics achievement of students in the West Fresno area may be evidenced in future years. For this to be accomplished it is necessary that the District continue to receive and give at least the same level of support to the program as currently exists.

Recommendations

1. Preliminary findings indicate that this program has great potential for contributing to the development of a more effective teaching-learning program for the

educationally disadvantaged student. As such, it should be continued.

2. If not already modified for the 1970-71 academic year, it is recommended that:
   a. A follow-up component be developed for the program which will serve to reinforce the new learnings of retrained teachers and will assess their classroom performance.
   b. A program of recruitment be developed to secure replacement teachers who are willing and able to make a continued commitment to teaching in schools for the disadvantaged.
   c. A component should be developed which will facilitate the arrival and departure of replacement teachers from a classroom and minimize any negative administrative effects upon the school and adversely effect educational achievement. This should also facilitate the "re-entry" of the teacher to her regular classroom after retraining.

3. It is necessary that further refinements be made in the research design of the project particularly with regard to evaluation. Though teacher competency is difficult to identify and report, it is possible to do this more completely than was done in 1969-70. It is apparent that for the 1969-70 year many more types of data were collected than reported. With the improvement of the evaluation format required by the State in 1970-71, more complete information will be available from this project.

LONG BEACH UNIFIED SCHOOL DISTRICT

W. Odie Wright, District Superintendent
Ernest Stackowski, Project Director

Situation

The Professional Development Centers (PDC) of the Long Beach Unified School District are situated in that city which has a population of nearly 400,000. The neighborhood in which the Centers are located has a racial and ethnic distribution as follows:

70% Black

20% White

10% Mexican American.

The major languages spoken in this specific area are English and Spanish. A high rate of parent unemployment exists in these neighborhoods.

The Professional Development Centers are situated in two separate locations within the larger neighborhood. The buildings and equipment at *College Intermediate School* are new while those at *Whittier Elementary School* are in good condition despite the fact that the school was built in 1936. The total enrollment of the two schools is approximately 1,000 with approximately 75% of the students Black and the remainder principally Caucasian. Student achievement in these schools is low.

For purposes of the PDC program, teachers from the primary grades were trained at *Whittier School* and intermediate teachers at the *College School.* Two satellite schools, *Roosevelt* and *Lincoln,* were selected to send teachers to the Center schools for training. At each Center school, two master teachers and their classes provided the training for the teachers receiving instruction.

Specific Objectives

The Long Beach PDC identified two specific major objectives in addition to those listed for all Centers for trainees which it was felt would be particularly helpful in enhancing the learning of pupils. These were:

1. *Improving the skills of teachers in diagnosing individual student's educational and learning difficulties as related to mathematics and reading.*

2. *Improving the skills of teachers in planning and implementing instruction in mathematics and reading based on pupil diagnosis.*

Specific Program Elements

The Long Beach PDC trained a total of 33 persons during the regular academic year. Table LB-1 which follows indicates the number of participants trained during each of the four regular cycles as well as the number of hours of training each trainee received. Personnel at Long Beach chose to concentrate their efforts on retraining teachers rather than other members of the staff. Almost all trained personnel were teachers indigenous to the schools involved.

TABLE LB-1
Number of Participants Trained Per Cycle

Cycle	I	II	III	IV	Totals
Replacement Teachers	6				6
Classroom Teachers		6	6	7	19
Math Specialists			2		2
Administrators		2	1	1	4
Teacher Trainees			2		2
Totals	6	8	11	8	33

In the PDC, the school year was divided into four seven-week cycles. An additional cycle of shortened duration was held during the summer. Replacement teachers were trained at the Centers during the first cycle and then taught the classes of the satellite schools' teachers during the second, third, and fourth seven-week retraining cycles. At the end of each cycle, the "teachers-in-training" for that particular cycle returned to the satellite schools to try their newly-learned instructional skills with their own classes. The replacement teachers returned to the Centers for two weeks of refresher courses, preparation for the next retraining cycle, and program evaluation.

In the second and subsequent cycles, the teachers-in-training attended seminars in such subject areas as the "culture of poverty," instruction for minority group pupils, diagnostic procedures, corrective instructional procedures, the writing of behavioral objectives, learning theory, and the development of instructional components.

Opportunities were provided for professional reading on these topics. Additionally, teachers planned and prepared lessons in tandem with other teachers for presentation under the direction of a master teacher or project coordinator. Often these presentations were video-taped for analysis of the teacher-learning act by staff member from the *University of California, Los Angeles.* During the second and third cycles a

shortened version of the program was given to specialist teachers, administrators, and other certificated personnel assigned to the two satellite schools. Two student teachers from *California State College, Long Beach* were also trained.

Evaluation

Student Achievement: The achievement of third and fourth grade pupils was assessed by means of standardized tests. These reading tests included the *Stanford Reading Test* and the *Gates-MacGinitie Reading Test.* The *Cooperative Arithmetic Test* and the *California Test of Basic Skills* were utilized in mathematics. These tests were administered in the fall and again in the spring to all pupils whose teachers were retrained in the PDC program as well as to control group pupils. Not until Cycle III did trained classroom teachers return to their own classrooms; no students, therefore, were influenced by trained teachers for more than half a year. Those teachers in Cycle IV were not in a position to influence their pupils after the completion of retraining. On this basis, only pupils whose teachers were trained in either Cycle II or III would be expected to benefit from the experimental effects of the program. Since satellite school classroom procedures were changed when the replacement teachers took over and again after a retrained teacher returned to her classroom, students in these classes were required to shift their learning strategies several times within a two month interval. These changes would not be expected to lead to great improvement in standardized achievement test scores. According to Figure LB-1, no PDC pupils had less than 0.6 a year gain in achievement while those pupils in non-PDC control groups had gains ranging from 0.3 to 1.3 in a year. Student achievement for non-PDC control groups exceeded that of PDC students in reading achievement as measured by the *Stanford Reading Test* in the third grade for Cycles II and III as well as in mathematics as measured by the *Cooperative Arithmetic Test.*

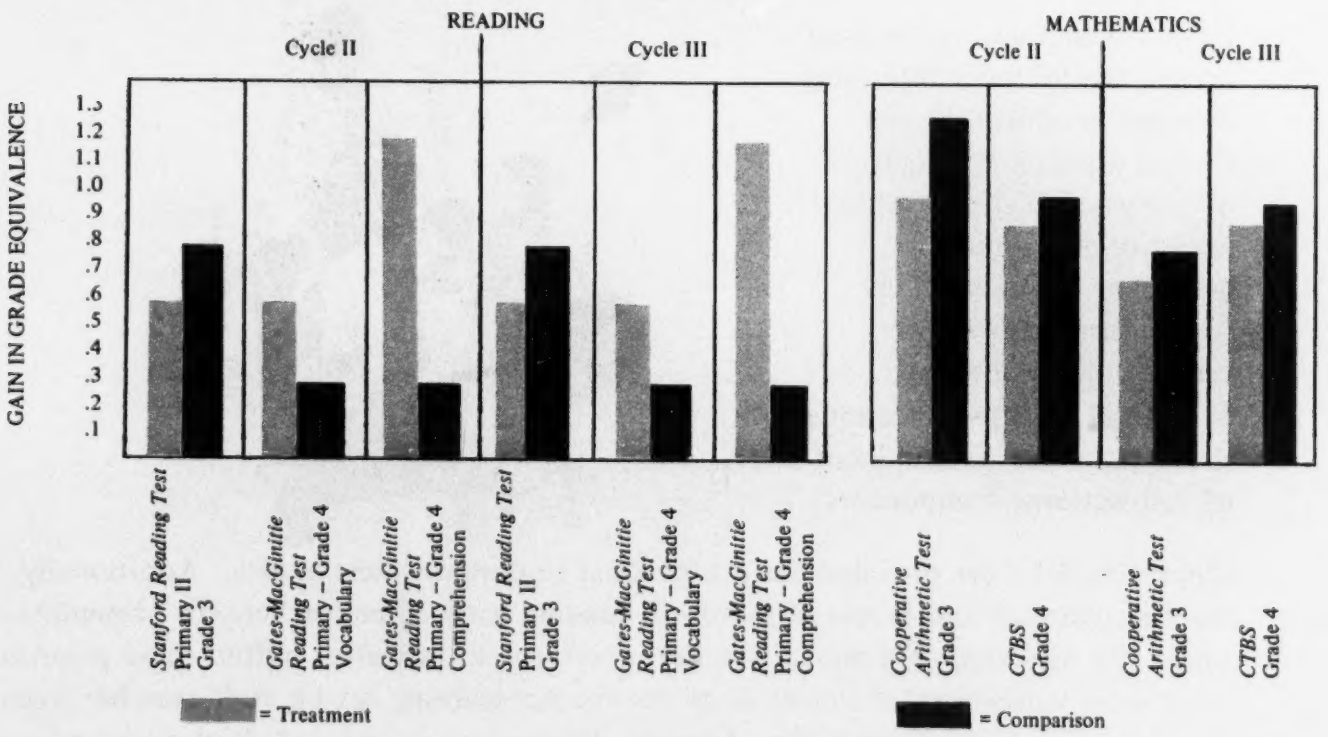


Figure LB-1. Gain Scores in Reading and Mathematics Achievement.

Teacher Competency: The development of valid measurement instrumentation to assess teacher competency has been a difficult task for the educational profession. A number of approaches which are primarily process-oriented were utilized in Long Beach. Their purpose was to seek information on the effectiveness of the program in assessing teacher competency. Among the measurements used were the following:

1. Diagnostic tests prepared by those teachers being retrained were obtained at the beginning and end of the training cycle and compared by District staff members to determine the degree of growth in diagnostic test construction which had occurred.

2. Master teachers rated the skill of the teachers-in-training at the beginning and end of Cycles II, III, and IV in the specific objectives being stressed.

3. Impartial observers from *UCLA* observed the teachers-in-training via video-tape for Cycles II, III, and IV prior to their training and at some time after their training when they had returned to the classroom. Teachers were rated on the basis of specific objectives which were stressed in the training.

4. A locally constructed questionnaire was given to all teachers following the completion of their training as well as to others who had been involved to obtain their professional opinions regarding the value and usefulness of the training.

5. A locally constructed questionnaire was given to all student teachers to obtain their judgments on the strengths and weaknesses of the program.

6. Pupils of teachers trained in the Cycle III were asked to respond to questions regarding reading and mathematics programs in an attempt to determine to some extent the impact of teacher training on pupils.

7. Teachers who received the training were requested to submit anecdotes in which they described incidents they believed had occurred as a result of the additional training.

Conclusions

The first year of any program must of necessity be devoted to process development. At Long Beach the program was well planned and implemented, and evaluation was integrated into the project. Appropriate needed changes were made during the year. In the anecdotal records, teachers reported that they had changed their teaching procedures to improve:

1. Individualization of instruction

2. Organization and specificity of the teaching process

3. Diagnosis of pupils' problems

4. Purposeful and efficient teaching

5. Identification of strengths and weaknesses in their own lessons.

It is important to note that there was no overall annual loss in student achievement while the program was being instituted. Based on the limited hard data from which conclusions may validly be drawn, the prognosis is that measurable improvements in the reading and mathematics achievement of students in the central area schools may be significantly improved through the PDC program in future years, given the exisiting level of support for the program.

Recommendations

1. Preliminary findings indicate that this program has great potential in the Long Beach Unified School District for a lasting and positive impact on the educationally disadvantaged pupils and as such should be continued.

2. If not already accomplished, the program should be modified for the 1970-71

year to insure that:

a. Master teachers are properly qualified.
b. Necessary dissemination of information be given to parents and teachers in satellite schools to offset apprehension on their part regarding the effect of classroom interruptions, and on the part of teachers scheduled to be retrained.
c. Procedures relating to the arrival of the replacement teachers are developed which will minimize the administrative effect and increase the educational achievement of pupils. Included with this should be steps to facilitate the "re-entry" of the teacher into her regular classroom after training.
d. To reinforce the training which the teachers receive in the Center school, follow-up and support must be provided after they return to their classrooms. Behavioral changes of the magnitude expected cannot be accomplished in seven weeks.

3. It is imperative that refinements be made in the development and collection of hard data relating to student achievement and teacher competency. A careful research design is necessary. Techniques such as the analysis of video tapes should be completed in such a way that discrete sub-ratings of elements of teacher classroom performance can be identified. Additionally, where possible, process evaluations should be redirected to identify summative results of the PDC program.

The pictures above show two PDC teachers receiving training through listening devices used at the Center.

OAKLAND UNIFIED SCHOOL DISTRICT

Marcus A. Foster, District Superintnedent
John Favors, Project Director

Situation

Oakland is a city in transition, the population changing from predominantly white to predominantly black. This change in racial composition is reflected in the learning problems which have beset cities as minority groups replace middle-class whites in the inner city. Much underemployment and unemployment is found among the parents of the Center school, *Cole*, and the satellite schools, *Willow Manor, Prescott, Clawson* and *Lafayette.* To offset the chronic underachievement present in these poverty areas, a retraining of teachers is necessary. The Professional Development Center (PDC) located at the *Cole School* was designed to provide the kind of training needed by teachers working in an inner-city school.

Specific Objectives

Oakland's specific objectives to accomplish the goals stated in the Center Project's *Guidelines* were:

1. To improve instruction in reading, mathematics, and other subject areas in participating satellite schools

2. To develop teacher skills in diagnosing learning difficulties and in prescribing corrective programs to overcome these learning difficulties

3. To improve teacher understanding of the special needs of target area pupils, their cultural milieu, and problems of inner-city life.

4. To develop more positive attitudes regarding the learning capabilities of target area children

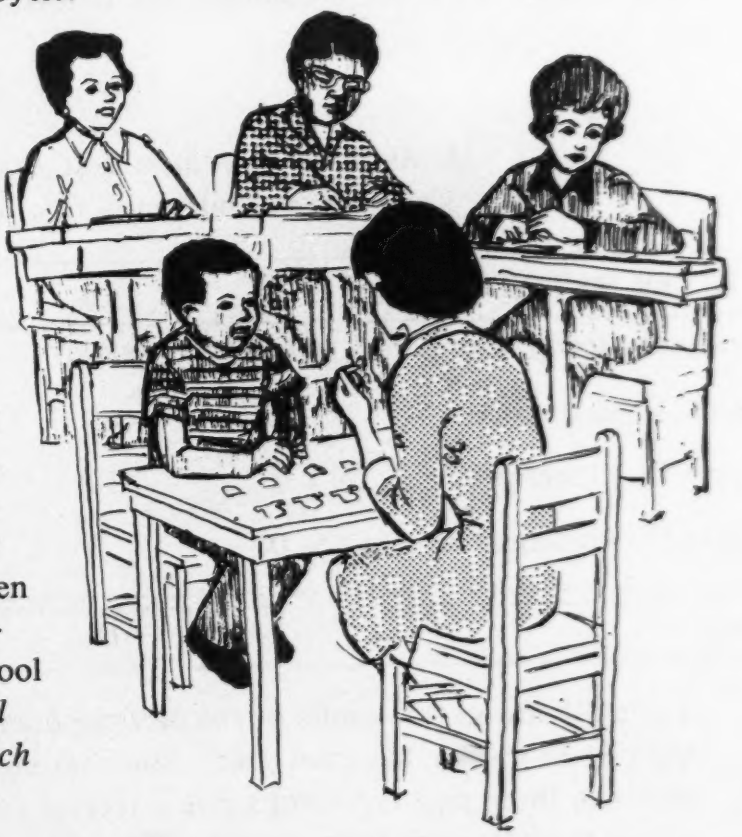
5. To improve teacher satisfaction in target area schools, and thus reduce the high ratio of probationary teachers in these schools

6. To develop an effective teacher retraining program involving interagency articulation.

Unique Program Elements

Oakland selected its replacement teachers from the list of candidates for employment in the Oakland School District. They were chosen on the basis of having superior ability in classroom management and instructional skills and the flexibility to work in different kinds of environments. In addition, they were to have had experience in working with disadvantaged children. Of the eight replacement teachers originally chosen and trained in Cycle I, one was replaced by a person trained in Cycle II. The ninth week of each cycle was spent in planning sessions and preparation for the next cycle. Thus seven satellite teachers were trained in Cycle II, and eight in both Cycles III and IV. Each cycle lasted eight weeks. Twenty of the teachers trained in the four cycles participated in the Summer Cycle.

Throughout the 1969-70 school year, eight experienced teachers, two in each of the grades kindergarten through three from the *Cole Elementary School* faculty served as resource teachers. Demonstrations were conducted in their classrooms either by these resource teachers, Dr. Arthur Hiatt, a consultant in mathematics, or by Dr. Barbara Schmidt, a consultant in reading from the *University of California, Berkeley*. Eighteen other consultants from various universities, colleges, the Oakland School District, and the *Far West Regional Laboratory for Educational Research* were used to train and retrain the teachers.



Throughout the year approximately half of the training time was spent in seminars and/or workshops conducted by the mathematics and reading consultants mentioned above. The remaining time consisted of seminars and workshops held by other consultants, field trips to the community, individual planning, and consultation in small groups or on a one-to-one basis. In Cycles III and IV the Center participated in the "Independent Learning and Small Group Instruction" program of the *Far West Regional Educational Laboratory*, usually referred to as "minicourse 8." This training involved the use of video taped lessons prepared by each participating teacher. In addition, the teachers had interaction analysis training under the direction of the project evaluator, Mr. Graham Rankin. These analyses were also used in the evaluation of the project.

Evaluation

Student Achievement Data: The first objective listed for the Oakland project was measured by standardized test scores of children taught by retrained teachers. As has been mentioned previously, these data should be viewed in the perspective of the total PDC program. No students being measured had had the benefit of the training provided by the Center for more than three-fourths of a year; furthermore, these students had an interruption in their learning as their regular teacher was replaced and then returned after the eight-week training period. The real benefits of the program will show themselves in future years as these retrained teachers have opportunities to incorporate fully their newly acquired skills in their regular classroom instruction. With this precaution, the following data are presented.

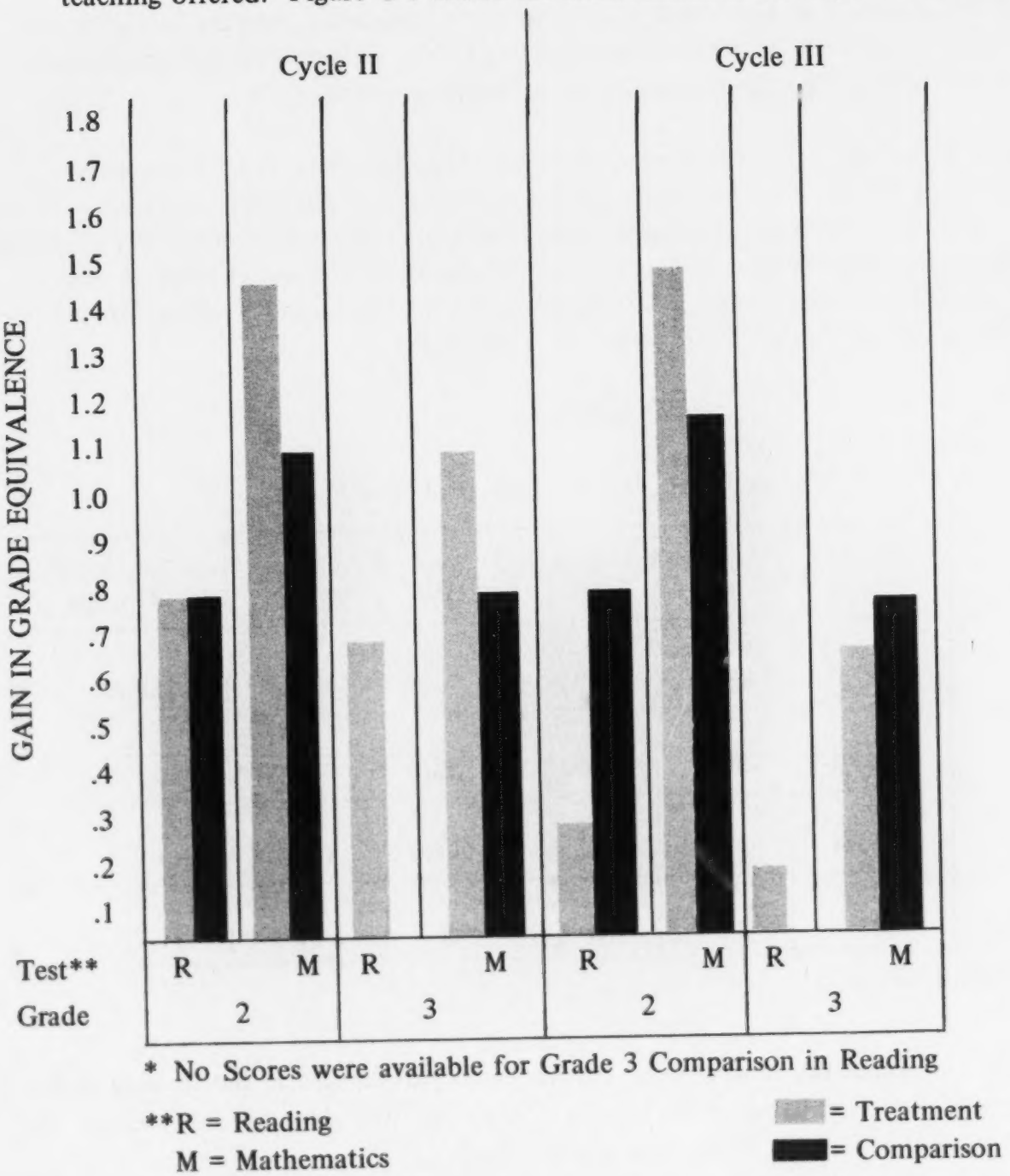
TABLE O-1

Metropolitan Readiness Test Achievement Test Scores
of Kindergarten Children of Teachers Trained in the PDC

LETTER RATING	A	B	C	D	E
Percentile Range	100%-89	88-70	69-30	29-9	8-0
Cycle II Kindergarten	2	5	8	5	1
Cycle III Kindergarten	5	10	26	2	0
Cycle IV Kindergarten	0	3	14	12	0
Sum	7	18	48	19	1

Table O-1 shows the results of the *Metropolitan Readiness Test* which was given at the end of the kindergarten year. Since no pre-test is used with kindergarten children, these post-test results give a picture of the accomplishments of children whose teachers were trained in the PDC. The Table shows that 25% of these students

were at the A and B level (70th percentile or above) and that 80% tested at the A, B, or C levels (30th percentile). These results are encouraging in an area where typically many children come to first grade not prepared to take advantage of the teaching offered. Figure O-1 shows the achievement in reading and mathematics



* No Scores were available for Grade 3 Comparison in Reading

**R = Reading
M = Mathematics

Figure O-1. Gain Scores in Reading and Mathematics Achievement as Measured by the *Stanford Achievement Test*.

for pupils of teachers involved in Cycles II and III and a comparison group taken from another *Title I* school having students from the same ethnic background and equivalent achievement level. The data from Cycle III are difficult to interpret, since the growth in mathematics was exceptionally great while the growth in reading was relatively small. It would appear that either this group, which showed unusually

high pre-test means in reading when compared with the rest of the pupils from these schools, had been perhaps one of those groups which "regresses" because of guessing or other factors from pre to post-test on reading. These children should be re-tested in May, 1971, to determine what differences, if any, their scores show. The Oakland District was fortunate in participating in a special mathematics program funded under *AB606* and lasting from February through June, 1970. This exceptional program assisted in the outstanding gains obtained in mathematics scores.

Teacher Competency: The Oakland schools used the *Minnesota Teacher Attitude Inventory (MTAI),* the *Flanders Interaction Analysis,* structured interviews with parents, and open-ended questionnaires with participants to measure their first objective, improving instructional skills. The results of the *Flanders Interaction Analysis* and structured interviews are found in this report under the heading of Teacher Competencies. The results of the *MTAI* are shown in Table O-2.

TABLE O-2

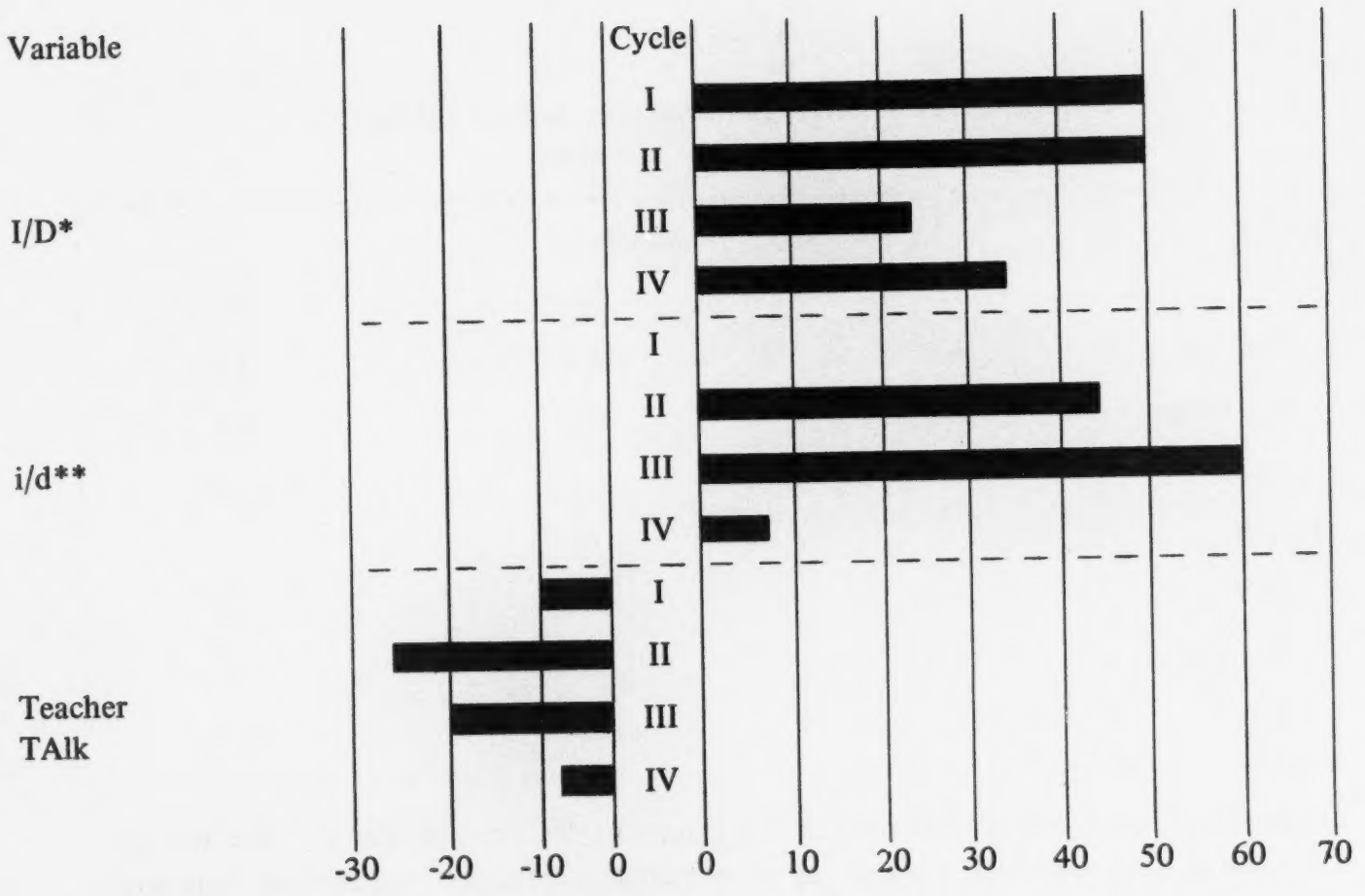
Pre- and Post- *MTAI* Scores of Trainees

	*Cycle I	Cycle II	Cycle III	Cycle IV	Cycles I-IV	Comparison Groups
Mean of Post Scores	57.0	77.0	72.4	72.0	69.5	54.6
Mean of Pre Scores	51.6	54.0	66.0	55.0	56.6	53.4
Mean of Pre - Post Diff.	+5.4	+23.0	+6.4	+17.0	+12.9	+1.2
N = No. of Teachers tested	8	7	8	8	31	7

*Replacement Teachers

In each of the cycles, the scores of the teachers who participated in the training at the Center school exceeded those of the comparison group. The same kind of changes are seen in Figure O-2 with the interaction analysis data.

This figure shows the per cent of Indirect, (I/D ratio) and indirect (i/d ratio) classroom interaction increased for teachers in all cycles, and the amount of teacher talk decreased. From the results of Flanders' research, these kinds of changes are desirable, and the training has apparently benefited the teachers. The results of the parent interviews were extremely positive. Most parents felt that their children had shown more interest in school and in working at school work than they had in previous years. Objective II was measured by a reading assessment form devised by Dr. B. Schmidt. The majority of teachers from the satellite schools indicated that they felt they were able



Per cent Change $= \frac{\text{Post } \bar{X} - \text{Pre } \bar{X}}{\text{Pre } \bar{X}}$

* I/D = Sum of marks in categories 1, 2, 3, and 4 divided by the sum of marks in categories 5, 6, and 7.

**i/d = Sum of marks in categories 1, 2, and 3 divided by the sum of marks in categories 1, 2, 3, 6, and 7.

Figure O-2. Per Cent of Increase in Scores of Teachers in CYCLES I-IV on *Flanders Interaction Analysis.*

to perform tasks and had developed skills after training to a much greater degree than they had prior to the training. Objective III was measured by means of a *Cross-cultural Information Inventory* devised by the Research Department of the Oakland Unified School District. Part I of this inventory consisted of ten true-false questions related to child development and minority cultural values. Part II consisted of matching the names of twelve books describing black, brown and other minority cultural groups, their problems and values, with the authors of the books. Table O-3 shows that there were gains on this measure between the pre- and post-tests in all Cycles except III.

The teachers in Cycle IV seemed to gain more than either of those in Cycle II or III, probably because of the greater familiarity of the teaching staff with the materials.

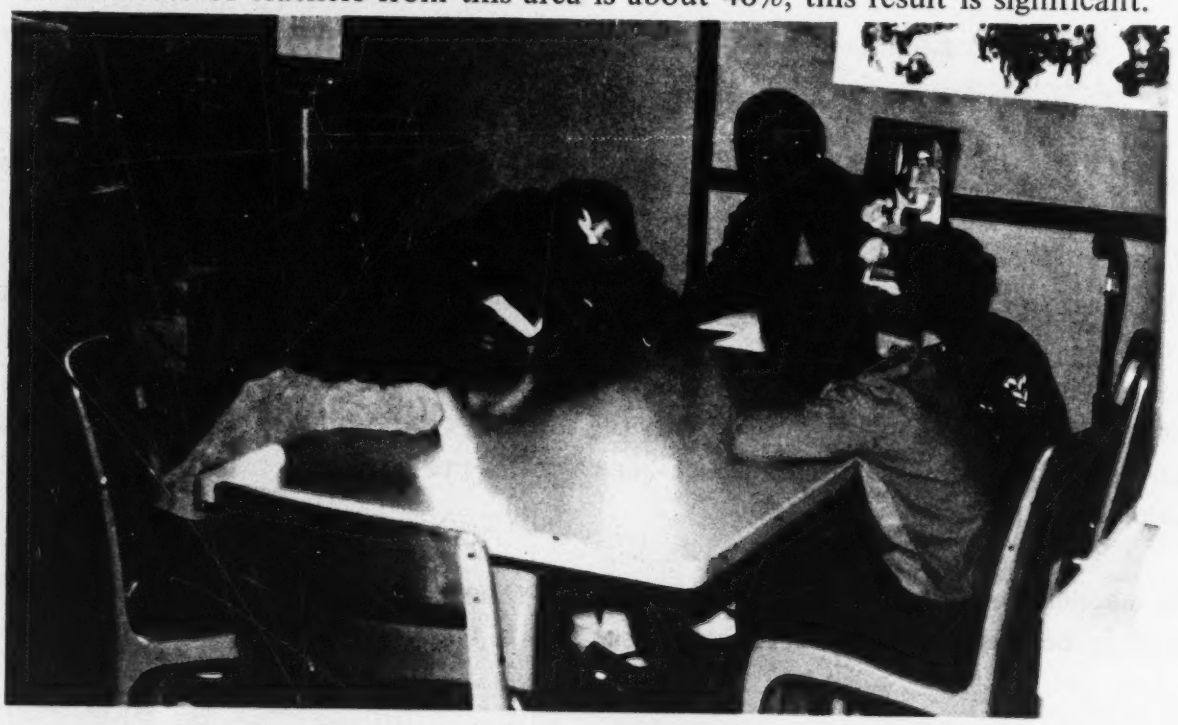
TABLE O-3

Pre-Post Mean Differences of Satellite School Teachers
on Cross-Cultural Inventory

Part I	Cycle		
	II	III	IV
Post mean	6.8	7.0	7.5
Pre mean	6.5	6.9	6.9
Diff.	+.3	+.1	+.6
Part II			
Post mean	5.0	3.2	7.0
Pre mean	3.9	3.2	3.1
Diff.	+1.1	0.0	+3.9

Objective IV was measured by means of a *Semantic Differential*. The attitude toward the Center school showed a highly significant change from pre- to post-test, indicating that the teachers felt that they had gained greatly from participating in the program.

Objectives V and VI were measured by means of interviews and open-ended questionnaires. The results of these were all positive and indicated that the participating teachers were satisfied with teaching in these inner-city schools and that they felt an effective program had been achieved. A more important statistic, however, is the fact that all thirty-one participants returned to their schools this year. Since the attrition rate of teachers from this area is about 40%, this result is significant.



The Summer Cycle was a five-week session involving twenty of the thirty-one teachers trained during the year. Although several more applied, there were places for only twenty. Teachers trained in all four cycles were represented in this group. These people taught in the mornings, using the skills which they had gained during their training. In the afternoons they participated in training sessions. Mondays and Fridays were "Open Workshops" days in which participants were free to use the resources of the Center to read or make materials for use in their classes. Tuesday afternoons were devoted to studying in the area of reading, Wednesdays in the area of mathematics, and Thursdays in the area of intergroup relations. Consultants from the *University of California*, the *Far West Regional Laboratory*, and the school district were used in these training and seminar sessions. No formal evaluation was required of the summer session. A questionnaire administered at the close of the program to the participants indicated that they felt that they had gained from the experience, and that they would like to repeat a similar training session during the summer of 1971.

Conclusions and Recommendations

It is apparent that Oakland has developed an effective teacher retraining program and has done an excellent job of both developing and evaluating its program in this first year. Each of the objectives was addressed by some program element or elements, and each was carefully and objectively measured. This kind of planning and implementation is unusual in projects which are funded late and begun almost as soon as they are funded. The careful way in which this project was developed deserves commendation. The fact that the selection of replacement teachers was accomplished by using a set of criteria which included having had some experience in dealing with inner-city children, no doubt had much to do with the success of the program. The caliber of consultants also contributed to the development of a group of well-trained and satisfied teachers.

It is recommended that there be a long term follow-up of the teachers trained in the Centers. At present, this kind of evaluation is not planned, but it is important to know whether or not the extensive training given these teachers has any long-lasting effects on their classroom behavior. It is also important to determine the effect, if any, of the changed teacher behavior on pupil achievement in reading and mathematics. The fact that twenty of the thirty-one teachers who received training during the year participated in the Summer Cycle provided reinforcement of the

skills learned and the information gained. A carefully planned and implemented follow-up needs to be conducted in 1970-71, if significant changes in classroom behavior are to be measured. Provision should be made to have all the teachers trained in the project participate in the summer program.

RICHMOND UNIFIED SCHOOL DISTRICT

W. W. Snodgrass, District Superintendent
La Jetta Lacy, Project Director

Situation

At the time the application was made for the Professional Development Centers grant for many of the students attending the Richmond elementary schools, the socio-economic and educational environment was far less than adequate. In the District a large percentage of the population was unskilled and/or on welfare; in the *Verde School* attendance area, 77% of the children were from families receiving AFDC assistance of which a majority of whom were from ethnic minorities. In nine of the thirteen schools located in disadvantaged neighborhoods, 93% of the students were black. Schools serving the black community were characterized by outdated facilities and over-crowding together with minimum communication between school and community. The teachers in these schools had been frustrated in trying to find solutions to the learning problems of children, and of the total district teacher attrition, two-thirds came from this area.

The problems mentioned above contribute to low achievement scores of children, and thirteen Richmond schools had achievement scores below the state and national norms at the time the District applied for Professional Development Center (PDC) funds. In fact, the state median in reading achievement was not being met by sixth graders in 20% of the District's schools and several of these schools ranked at the first quartile level. Students and teachers were discouraged, suspension and truancy rates were high, and pupil turnover approximated 30%. Confronted with these problems, and seeking assistance, the Richmond School District turned to the PDC concept as a positive beginning for progressive action in helping its disadvantaged youth.

Specific Objectives

Richmond's objectives were to improve the quality of education in the target area schools by:

1. *Upgrading the training of teachers in teaching oral and written vocabulary*

2. *Upgrading the training of teachers in the areas of addition, subtraction, multiplication, and division, as well as the solution of printed mathematics problems*

3. *Training classroom aides to take over routine duties to release teachers so that they can devote more time to professional instruction*

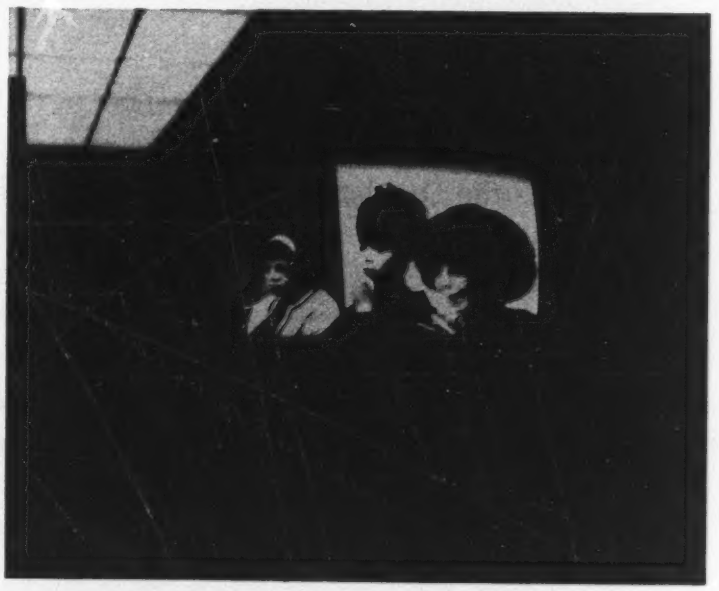
4. *Extending and improving the diagnosis of children's learning abilities so that individualization can be more effective*

5. *Providing a career training program for persons interested in joining the educational profession.*

Unique Program Elements

The Richmond PDC was established at the *Martin Luther King School,* with the *Verde, Lincoln* and *Peres Schools* as satellite schools. Eight teachers were trained in each cycle; in addition, six aides were trained in Cycles I and III, and five aides were trained in Cycle II. One administrator was trained in each of the last three cycles. The replacement teachers trained during Cycle I were predominantly provisionally credentialed teachers.

The program planned to accomplish the objectives stated above involved extensive training of participants in teaching mathematics and reading. In addition, the teachers were to be trained to utilize more effectively the aides assigned to them. The aides were to be given training which would better prepare them to work with their assigned teachers. The cooperating college was *San Francisco State College.* Dr. Margaret Lynch was the chief consultant in reading, and Dr. John Marks in mathematics. In addition, the *Far West Regional Educational*



Laboratory materials were used extensively during the early part of the project. A diagnostician was available during the first three cycles to provide training in diagnosing learning problems but left the program at the beginning of Cycle IV. The participants in Cycle IV received training in diagnosing learning disabilities from Dr. Lynch and Dr. Marks. Workshops, individual consultations with specialists, group discussions, and video tape analyses were used in the training process throughout the first four cycles.

In the summer school session, eight of the participants who had been trained in one of the first four cycles taught in summer school. At least one participant from each of the four cycles was represented in the summer session. No personnel from *San Francisco State College* were available for training purposes. However, reading and mathematics specialists worked with the teachers in their classrooms and directed inservice workshops after school for the teachers during the summer school session. These summer school teachers practiced the skills which they had learned in the PDC program, and many innovative techniques were used which would not have been tried during the school year. A "remarkably effective" parental involvement program was implemented with provisions for carry-over into the regular school program.

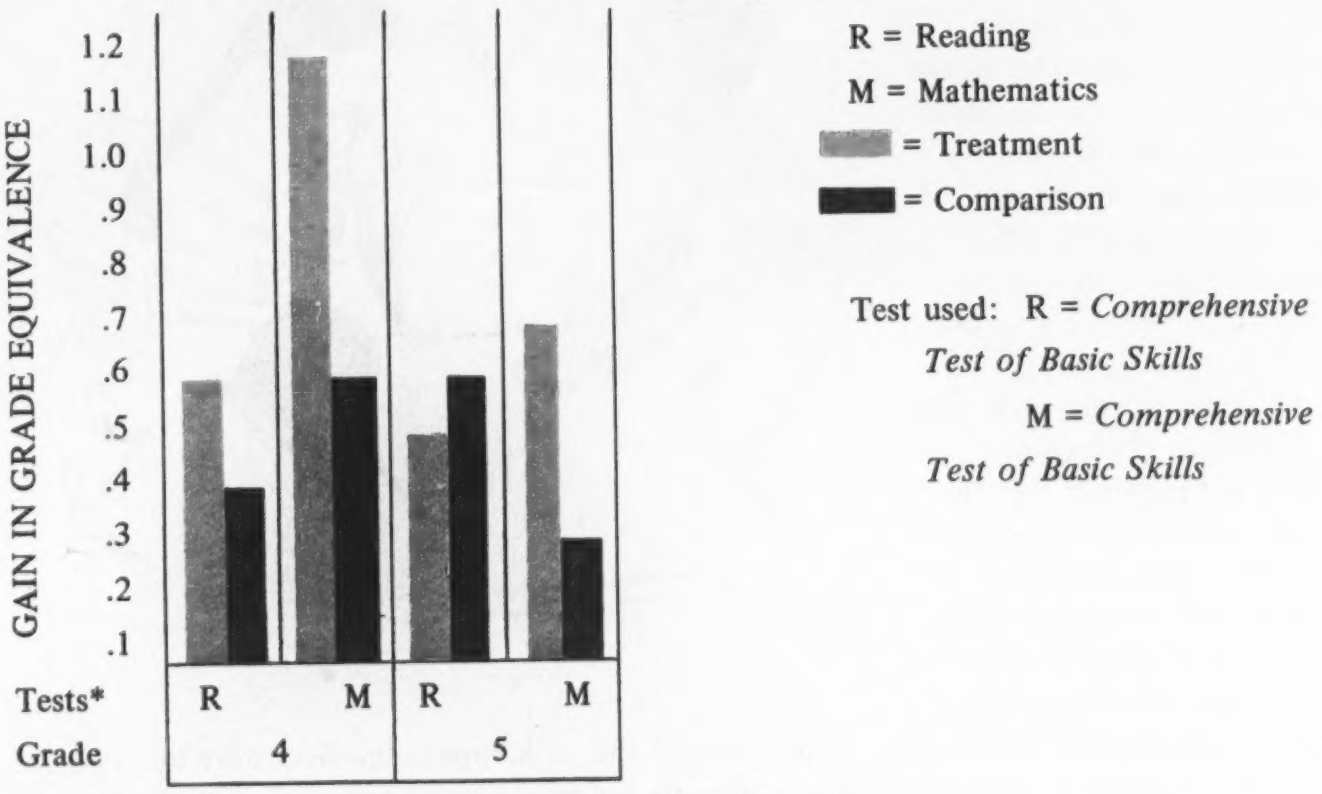


Figure R-1: Gain Scores in Reading and Mathematics Achievement.

Evaluation

Student achievement data: These data are available for the classes of teachers trained at the *King School* and the comparison classes at *Coronado School.* Figure R-1 shows the gain scores for students in these two groups for grades four and five. In the four areas tested, the treatment school's scores exceeded those of the comparison school.

The gains in the area of mathematics are much greater than those in reading and seem to indicate that there is a more readily transferable skill in teaching mathematics than in teaching reading. Data were not presented for students in each of the satellite schools separately. The overall effect of the training as indicated by the pupil achievement scores is excellent.

Some satellite teachers in Cycle II indicated that the replacement teachers "failed to adequately cope with the problems which resulted from the separation of satellite teachers for training at the *King Center.*" In Cycle IV, however, satellite teachers indicated that the replacement teachers had done an adequate job of teaching their classes, an indication that the follow-up training given these replacement teachers had been effective.

Teacher Competency: Richmond did not use interaction analysis, and no analysis of data obtained from video tapes was made in their report. The *Minnesota Teacher Attitude Inventory (MTAI)* was administered to all EPDA participants; the results show a change in median pre- to post-test scores of from -22.5 to -12.5 for teacher aides. This shift indicates a move from "inferior" to "superior" teacher attitudes on the part of the aides, according to the test manual. Richmond found and reported that in target area classes in which aides were present for at least twenty hours per week, two-thirds of these classes improved one quartile or better in their achievement test scores. All but one of the replacement teachers were hired as regular teachers in disadvantaged area schools for the 1970-71 school year, a clear indication that their classroom abilities had been recognized by principals with whom they had taught.

Teachers, aides, and administrators were given questionnaires to assess their feelings about the success of the project. Two recommendations made by respondents in Cycles I and II, and actions taken in response to these requests were:

- that the *Far West Regional Laboratory* materials be dropped from the cur-

riculum by participants in the first cycle. These materials were used in modified form in subsequent cycles

- that aides and teachers be trained together and that their training be more coordinated. This change was made in subsequent cycles.

In a questionnaire given to all participants after Cycle IV, it was generally agreed:

- that the training of teachers and aides be conducted in the satellite schools since the best results of training by consultants were obtained under these conditions

- that the program had been beneficial in providing teachers and aides with new to the teaching of reading and mathematics

- that the "Questioning and Inquiry" method had been a particularly useful tool in their classrooms.

In addition to these recommendations, the project evaluator mentioned that the evaluation format did not allow for flexibility in reporting the effects of the program. The program was modified from cycle to cycle, however, to allow for unique problems which needed to be addressed in each of the cycles. A change in both the evaluation procedures and the reporting format was recommended.

Conclusions

This project is one in which more detailed analyses of the participants' learning would have been helpful. Information showing the pupil achievement in reading and mathematics for each satellite school was not included in these reports, and might have added some insight into the expected effects of the training at each satellite school in subsequent years. The responses to the questionnaires given to teachers, aides, and administrators at the end of the project indicated that the majority felt that the program had value and that they had profitted from it. No data appraising the teachers' classroom behaviors were reported, however, to determine how much this feeling of success was reflected in their classroom practice. The *MTAI* scores would indicate that there was improvement in attitude, and we can surmise that this should be reflected in classroom behavior. The fact that those classes in which aides worked with teachers did much better than those in which there were no aides would indicate that there had been improvement in teaching practices. The fact that all but one of the replacement teachers were rehired would also indicate that the training had been successful.

All of the indications are that the program was successful. The teachers felt, however, that the training should be conducted in the classrooms of the individual schools. Since the *Guidelines* specifically require that participants be taught in the Center School,

the District chose not to continue the PDC training program. The project was not refunded for the 1970-71 school year.

A change in the situation from that cited in the initial paragraph of this report should be mentioned. The overcrowding cited in the section labelled Situation has to a great extent been eliminated by the Richmond Integration Plan, which was implemented during the year and is now operational.

Recommendations

Since PDC was not refunded for the 1970-71 school year, only those general recommendations will be made which have applicability to all PDC programs:

- the selection of replacement teachers is crucial to the success of any PDC, and those chosen must be exceptionally strong and experienced teachers

- the results of any cycle evaluation should be considered and the program modified as indicated by the evaluation results if a program is to remain viable

- since the learning theory espoused by Guthrie emphasizes that behavioral changes become fixed patterns of behavior only in the environment in which they are to be implemented, training satellite teachers in their own schools should be considered.

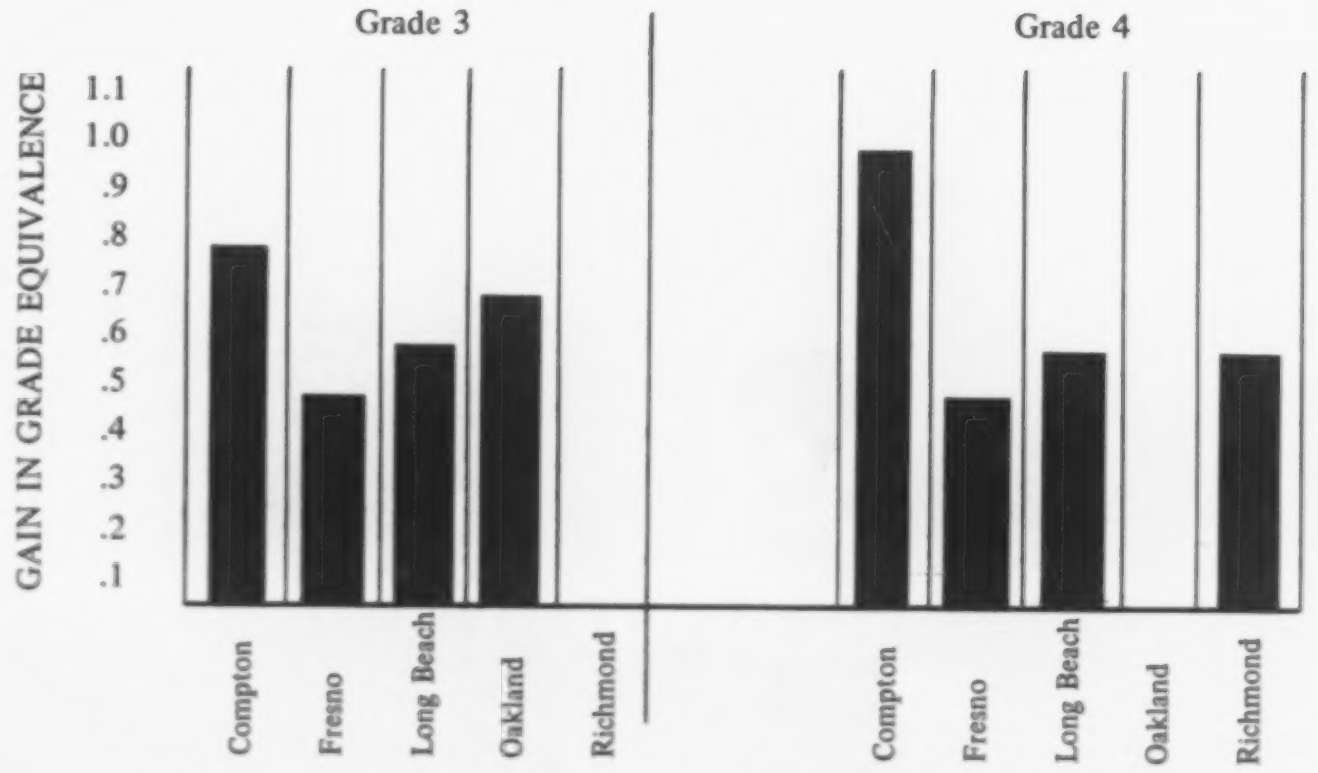


Figure 2. Gain Scores in Reading Achievement for Grades 3 and 4 Cycle II.
Oakland had no grade 4 and Richmond had no grade 3.

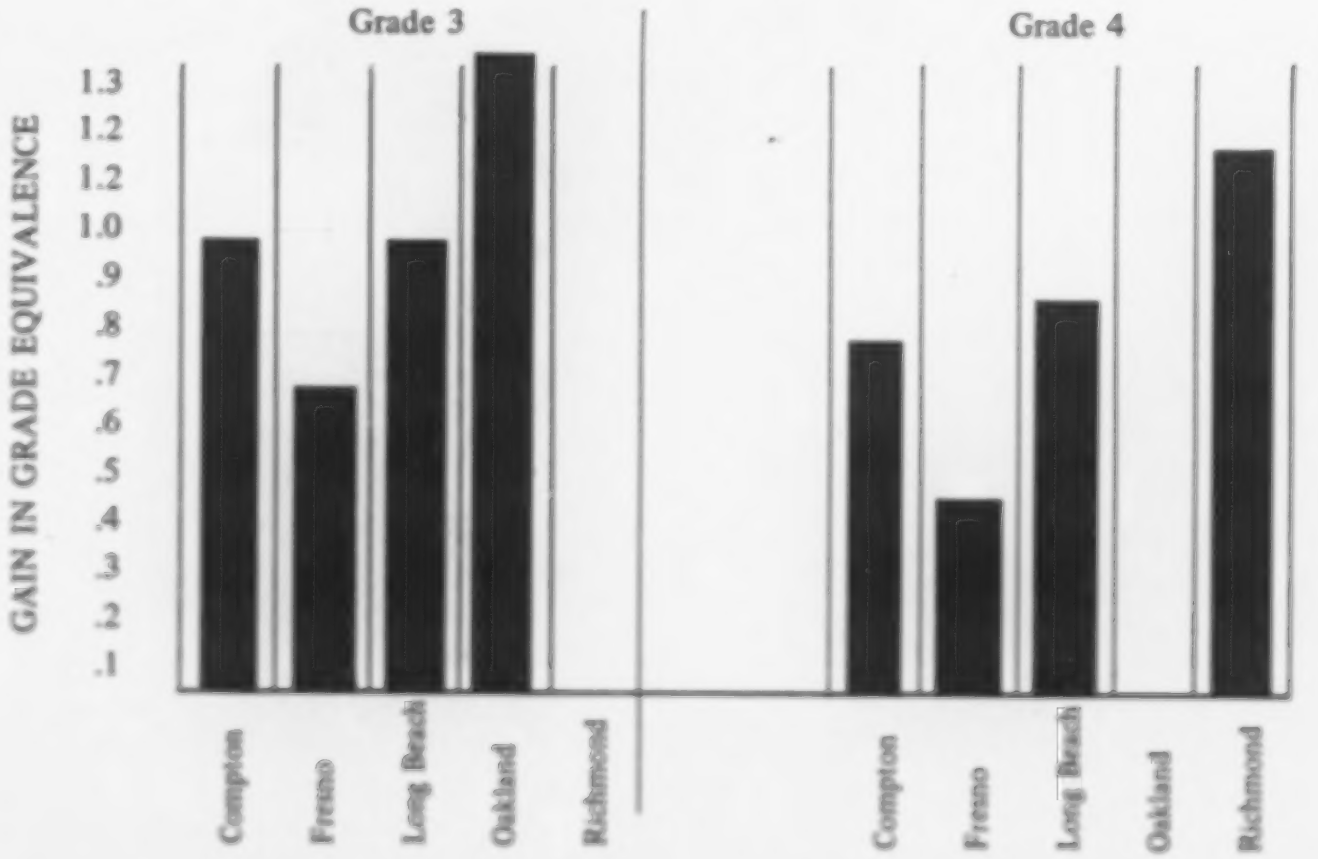


Figure 3. Gain Scores in Arithmetic Achievement in Grades 3 and 4 Cycle II.
Oakland had no grade 4 and Richmond had no grade 3.

CONCLUSIONS

Student Achievement Data: The PDC's were to train teachers in K-6 schools. Since each Center was able to choose the grade levels in which it would provide training, it is difficult to show in a single figure comparative data from the five Centers. Figures 2 and 3 indicate the comparison of Cycle II reading and mathematics scores for each of the Centers in grades 3 and 4, the only grades in which comparable data could be obtained.

Figures 4 and 5 show the reading and mathematics scores for Cycle III for grades 4 and 5. In each of these cases, no significant pattern can be seen to indicate that the students who were working under teachers trained in the PDC's were superior or inferior to those in the comparison groups. Before any conclusions are made regarding these data, three points should be clarified. First, each of the students whose scores are recorded on these graphs was involved in some other compensatory education program in addition to the PDC. The comparison students also participated in programs which were receiving *Title I, Miller-Unruh*, or some other type of funding to help overcome the deficiencies under which they were working. This factor makes simple comparisons difficult. Second, no child in the treatment group was taught for a full year by teachers trained in the PDC. Third, whereas no consistent pattern is shown from these data, it can be seen that the least amount of gain on either reading or mathematics for treatment group children was 0.6 year.

The goal stated in the *Guidelines* for the growth in achievement of children taught by teachers trained in the Center project was 1.5 years for every 1.0 year of schooling. This goal was not published until June, 1970, nine months after the Projects had begun. Since none of the children tested in the PDC program had had a year's schooling under the direction of people trained in a PDC, to expect a one and one-half year's growth is unrealistic; therefore, the fact that such growth was not attained is understandable. The real test of the effectiveness of the PDC's will come in subsequent years when the teachers will have had time to incorporate the newly learned skills and knowledge into their repertoire of teaching techniques and put them into practice. It is imperative, therefore, that some follow-up of the students and teachers who were participants in projects during 1969-70 be made in future years.

Just as it is unrealistic to expect that children will gain 1.5 years growth when exposed to teachers trained in new methods and skills, it is also unrealistic to expect that those newly learned skills and ideas will be retained by teachers who have had intensive training for a

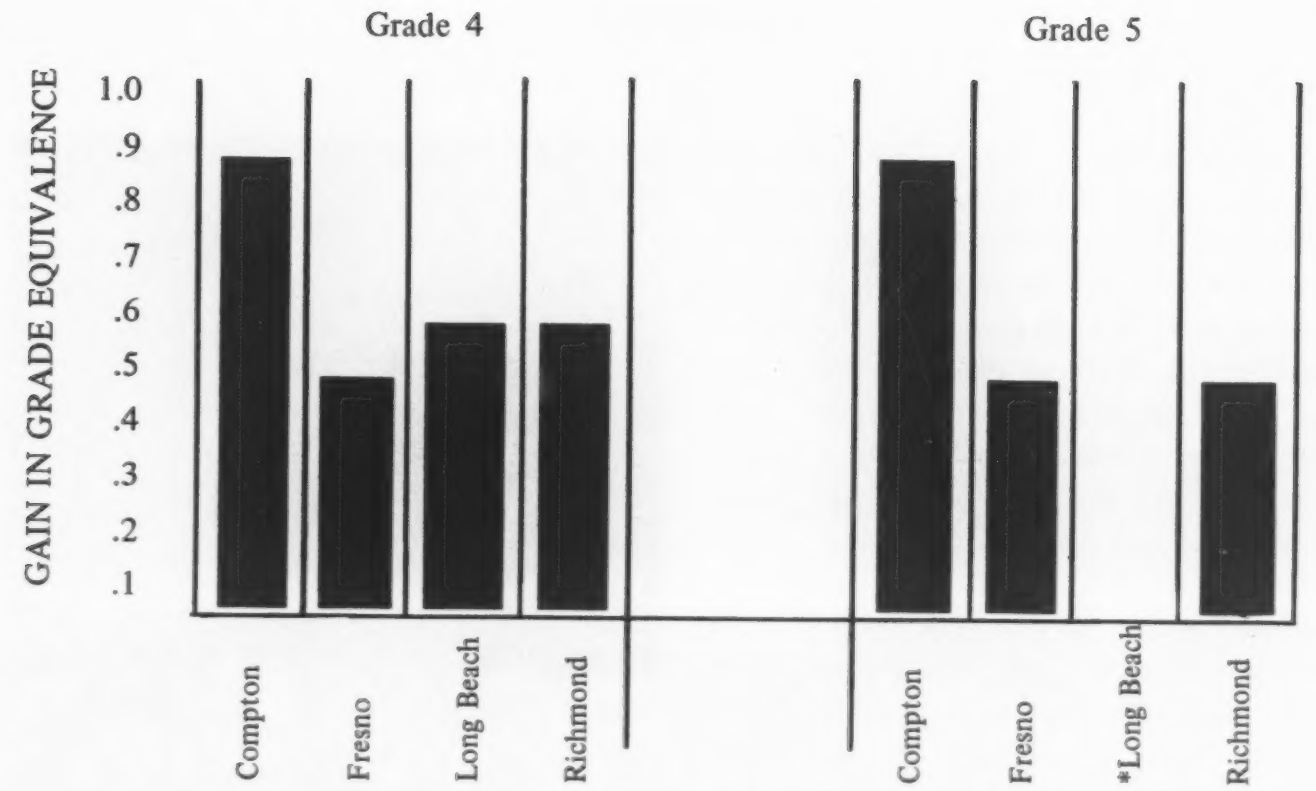


Figure 4. Gain Scores in Reading Achievement for Grades 4 and 5 Cycle III.

*No grade 5 was included in project.

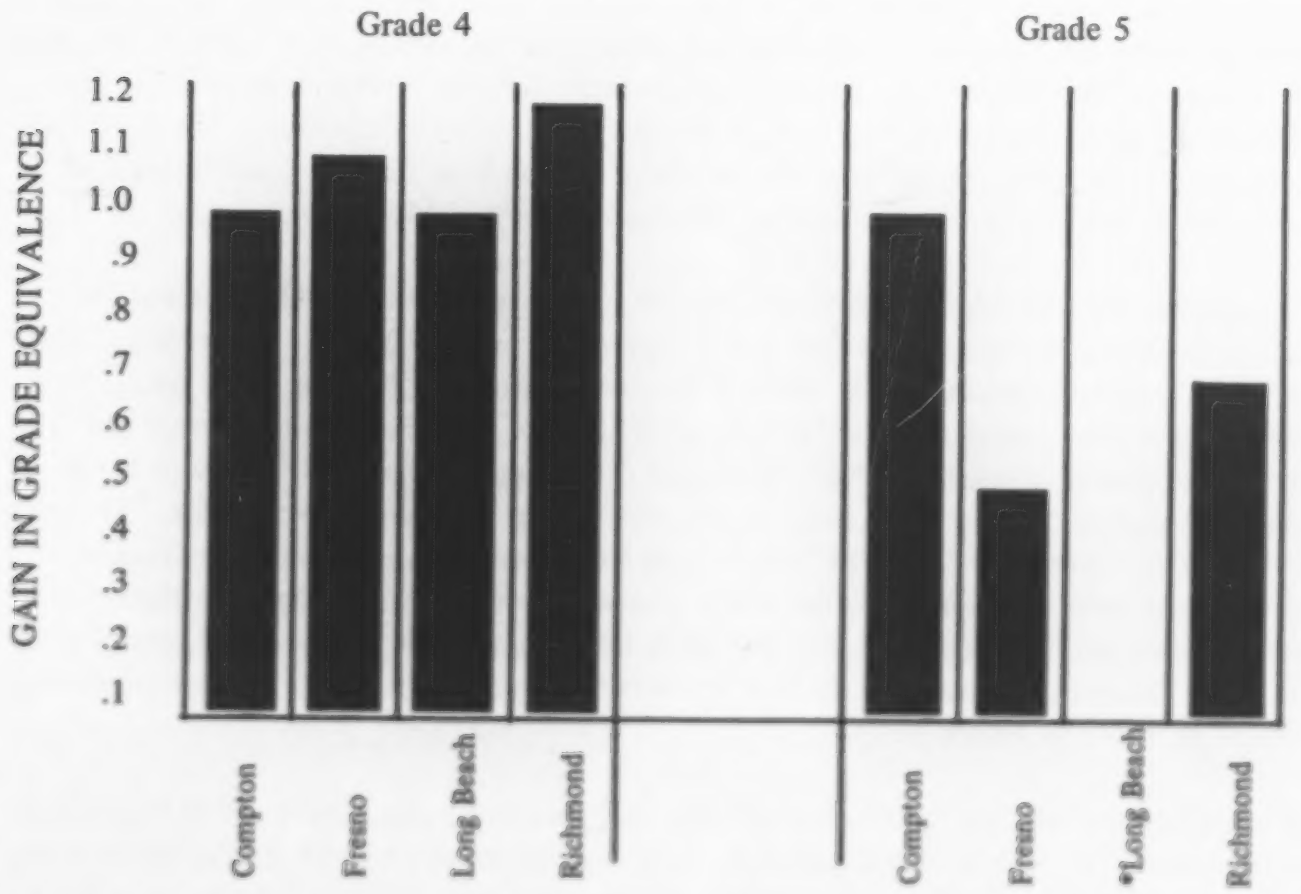


Figure 5. Gain Scores in Arithmetic Achievement in Grades 4 and 5 Cycle III.

*No grade 5 was included in project.

short period *unless* there is a periodic reinforcement of these skills following the initial training.

Teacher Competency: The measure of teacher competency has been a problem for educators for many years. Several kinds of measures have been devised in attempts to quantify the skill level or knowledge level attained by teachers which has direct influence on their effectiveness in helping children learn. The *Minnesota Teacher Attitude Inventory,* for example, was devised to determine whether the attitudes expressed by teachers on this test would have any relationship to their ability to teach children. Serious doubts as to its relevance have been expressed by educators over the years (see Buros' *The Fourth Mental Measurements Yearbook). The Flanders Interaction Analysis* technique and the *Semantic Differential* are more recent attempts at measuring the competency of teachers. All of them have serious weaknesses; yet, each adds something to our knowledge and some measure of the effectiveness of teachers is better than none.

Each of the PDC's attempted to measure in some degree the competency of the teachers who were trained in their programs. Oakland's very carefully documented measure of each of their objectives is commendable. Their summary report can profitably be used as a model for showing the congruence between the objectives, program elements, and evaluation of PDC programs. Individual teachers were observed on a variety of classroom behaviors through the analysis of video tapes of their teaching. This kind of information is extremely important if programs which are aimed at improving teaching skills of teachers are to be effectively evaluated.

The quality of instruction varied among the various Centers; in some, the consultants provided the kind of training and information which teachers found helpful while others proved to be essentially of little or no value. Fortunately, all the Centers did use questionnaires. The ineffective or less effective aspects of their programs as evidenced in Cycles II and III were eliminated or improved in Cycle IV. Although the Richmond District decided not to continue the program, these teachers felt that they had benefited from the program and would have liked to see it continued; however, they did feel that it needed modification.

It is possible that the Summer Session retraining would serve as an effective way of helping teachers to incorporate fully the new ideas and should be required for all PDC participants. In addition, the teachers trained in the Cycles II and III should also be given the privilege of attending seminars or planning contacts with master teachers and consultants in the weeks immediately following their training. Many times teachers who think they understand a particular point or have mastered a particular skill find when confronted with the real

situation that they neither fully understand nor have completely mastered the idea or skill. Generally speaking, these types of teacher training programs are essential if our inner-city schools are to meet the needs of the minority children. College and university teacher training programs which prepared most of the teachers in these schools had not been geared to training teachers to deal with the cultural or socio-economic value-systems of children within the inner city. A group of teachers has been trained to be aware of the cultural differences of inner-city students. As these teachers continue to work within their schools, the training they have received should become evident in their increased classroom competency and be reflected in the achievement test data of children whom they teach.

Recommendations

Four major recommendations can be made which apply to all these projects.

- intra- and inter-school district dissemination of the concept of inservice retraining should be made. The implications of this project for providing models for inservice training should be recognized by school administrators so that other centers can be established and implemented in addition to those funded by the Bureau of Professional Development.

- a carefully planned program of follow-up reinforcement of the skills and knowledge learned by program participants should be incorporated in each of the models. Changes in teacher behavior of the magnitude expressed in the objectives cannot be attained in a six to eight week period unless there is follow-up support and reinforcement.

- a follow-up evaluation of these teachers and their students for a three-year period should be made to determine just how many of the skills learned in the PDC are actually retained and used in the classrooms. The effects of these newly acquired skills on student achievement should be measured by standardized tests.

- more careful attention to developing measures of teacher competency should be conducted by each Center Evaluator. Some criterion-referenced testing in this area should be developed.